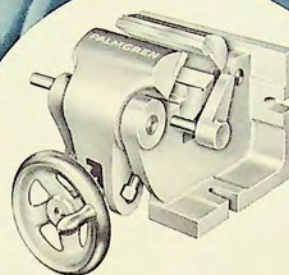


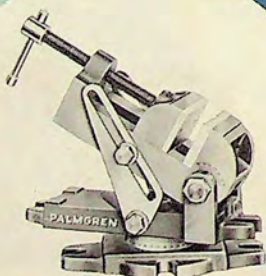
PALMGREN

PRODUCTS

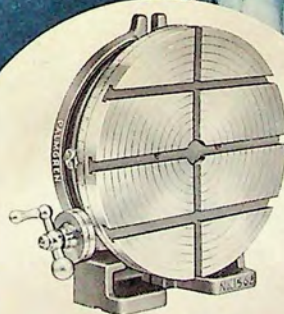
USED IN ALL
INDUSTRIES
EVERYWHERE,
... SINCE 1919
FOR PRODUCTION,
TOOLING, AND
MAINTENANCE



NO. PCV-1
CENTERING VISE
PAGE 10



NO. 000
ANGLE VISE
PAGE 2



NO. 1562
TWO POSITION
ROTARY TABLE
PAGE 24

ANGLE VISES • ROTARY and INDEXING TABLES

CATALOG 221

STOCKED BY:



CHICAGO - SEPT. 8-17

**1976
International
Machine Tool
Show**

Why are

PALMGREN PRODUCTS

used in all industries—everywhere?

*Quality...Reliability...
Dependability*

These are words tossed around quite freely these days. But it takes years of "results" to establish a reputation that will stand on these three words.

PALMGREN products, for more than fifty-two years, have been a standard of the metalworking industry. The dependability of PALMGREN is known from the largest aircraft manufacturer to individual hobbyists—from small schools to highly technical laboratories. Original equipment manufacturers offer PALMGREN vises and tables as standard accessory items.



Leading industrial distributors throughout the country are proud to carry PALMGREN products to better serve your every need.



INDEX

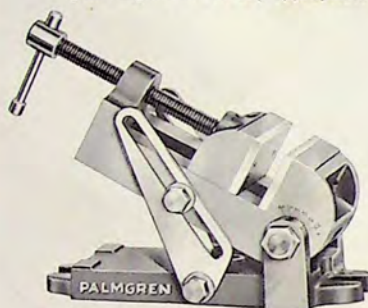
Air Hydraulic Power Units	12
Air Hydraulic Vises	11
Air Vises	13
Angle Plates	14, 27
Angle Vises	2, 3, 4, 5, 14
Centering Vises	10
Compound Angle Vises	4, 5, 14
Cross Slide Tables	27, 28, 31
Drill Press Vises	6, 7
Ground Vises	7
Hand Vise	13
Heavy Duty Angle Vises	4, 5
Indexing Attachments	17
Lathe Milling Attachments	15
Milling Machine Vises	8, 9, 10, 11
Milling Tables and Slides	27, 28, 31
Power Driven Rotary Tables	26
Production Vises	10, 11, 13
Rotary Tables and Slides	16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26
Table Accessories	17
Tilting Tables and Slides	17, 18, 19, 21, 22, 25, 27, 31
Utility Vises	7
Vertical-Horizontal Rotary Tables	18, 20, 23, 24, 26
Work Holders and Positioners	14
Prices	29, 30

Now you can solve all angle problems, dispense with clamps or wedges, and get a quick, accurate and positive set-up in a few seconds on your drill press, milling machine, or grinder.

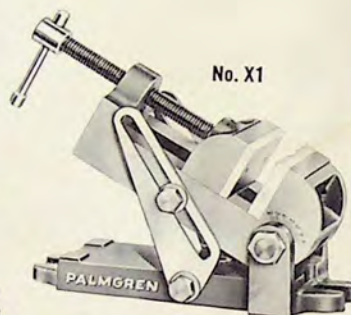
These Palmgren Angle Vises are built for rugged service. Made of finest materials, and accurately machined to secure quick set-ups for precision work at any desired angle up to 90°. Can also be used like ordinary Vise when lowered in horizontal position.

These Vises are equipped with ground steel jaws, either plain or grooved vertically and horizontally for holding round pieces. The adjusting screw has a fine pitch thread, and long bearing in body.

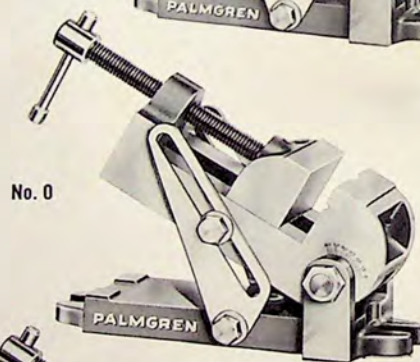
Three additional bases are available with these Angle Vises, the "M" Swivel Base has a keyway for machine mounting, and is graduated 360° for accurate rotational positioning at any angle. The "B" Bench Base provides 360° rotation, and can be permanently mounted on a bench, service cart, etc., and with the "C" Clamp Base you can clamp your Angle Vise on any appropriate surface.



No. X0



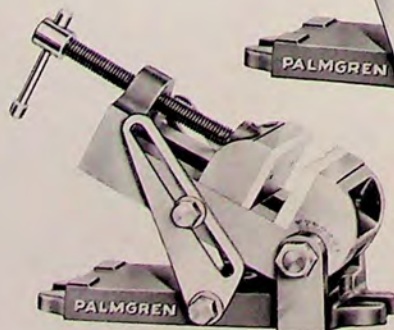
No. X1



No. 0

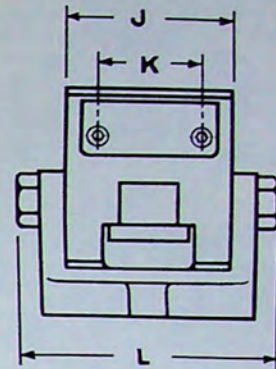
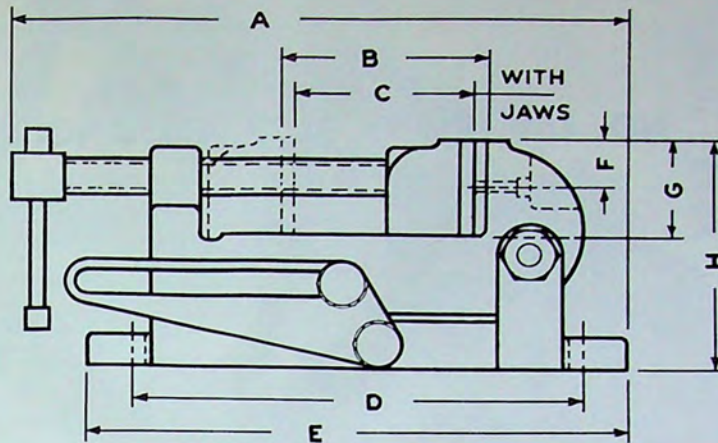


No. 00



No. 000

ANGLE VISES | PALMGREN



MODEL NO.	A	B	C	D	E	F	G	H	J	K	L	Kind of Jaws	Weight Vise Only
X0	6½"	1⅞"	1⅞"	5"	5¼"	½"	1"	2⅞"	1½"	⅜"	2⅞"	Plain Steel	4 lbs.
X1	6⅞"	1⅞"	1½"	5"	5¼"	½"	1"	2⅞"	1½"	⅜"	2⅞"	Grooved Steel	4 lbs.
0	9½"	2½"	—	6¼"	7⅞"	—	1½"	3⅞"	2⅞"	—	3⅞"	Grooved	10 lbs.
00	8⅞"	3"	2½"	6¼"	7⅞"	¾"	1½"	3⅞"	2⅞"	1½"	3⅞"	Plain Steel	10 lbs.
000	9"	3"	2½"	6¼"	7⅞"	¾"	1½"	3⅞"	2⅞"	1½"	3⅞"	Grooved Steel	10 lbs.



No. 000 Angle Vise
on 25M Swivel Base

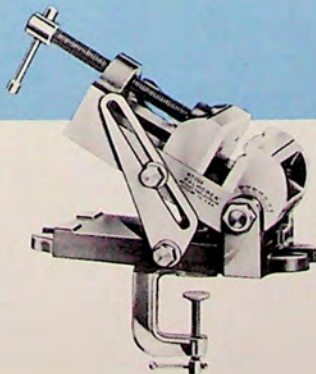
ANGLE VISES WITH SWIVEL BASES

WISE NO.	"M" BASE NO.
X0	15M
X1	15M
0	25M
00	25M
000	25M
WISE NO.	"B" BASE NO.
X0	15B
X1	15B
0	25B
00	25B
000	25B
WISE NO.	"C" BASE NO.
X0	15C
X1	15C
0	25C
00	25C
000	25C

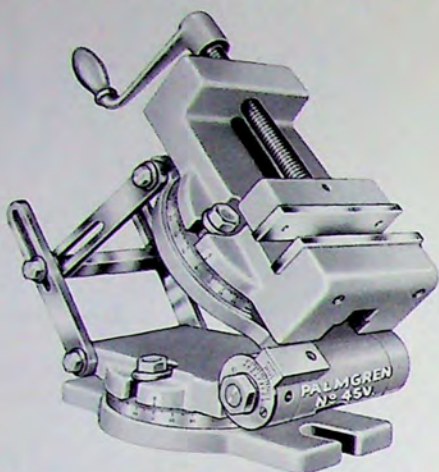
No. 000 Angle Vise
on Model 25B Bench Base



No. 000 Angle Vise
on Model 25C Clamp Base



PALMGREN HEAVY DUTY ANGLE VISES



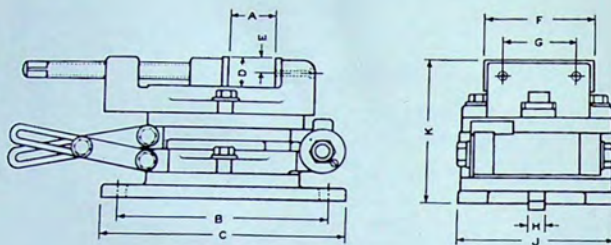
NO. 45V HEAVY DUTY ALL ANGLE VISE.

This Vise provides for 360° rotation of the Vise, 360° base swivel, and 0 thru 90° vertical angle adjustment and settings. The Palmgren No. 45V has a fine pitch Acme thread lead screw.

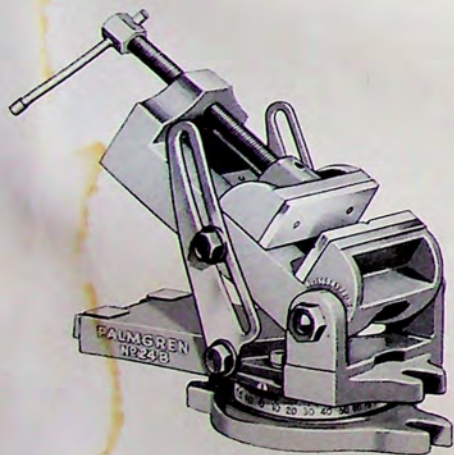
This combination of movements makes possible setups at practically any angle or combination of angles that may be required.

The angle, rotation, and swivel movements are calibrated for direct reading with the Vernier markings to 1° increments.

Base has $\frac{1}{8}$ " keyways and bolt slots for machine mounting.



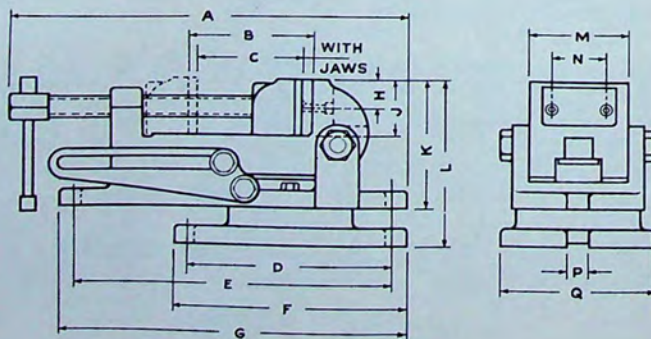
Vise No.	A	B	C	D	E	F	G	H	J	K	Weight Lbs.
45V	4"	8 $\frac{1}{4}$ "	10"	1 $\frac{1}{4}$ "	$\frac{3}{8}$ "	4 $\frac{1}{2}$ "	3"	1 $\frac{1}{4}$ "	6 $\frac{7}{8}$ "	5 $\frac{1}{2}$ "	49



NO. 23B-24B ADJUSTABLE ANGLE VISES.

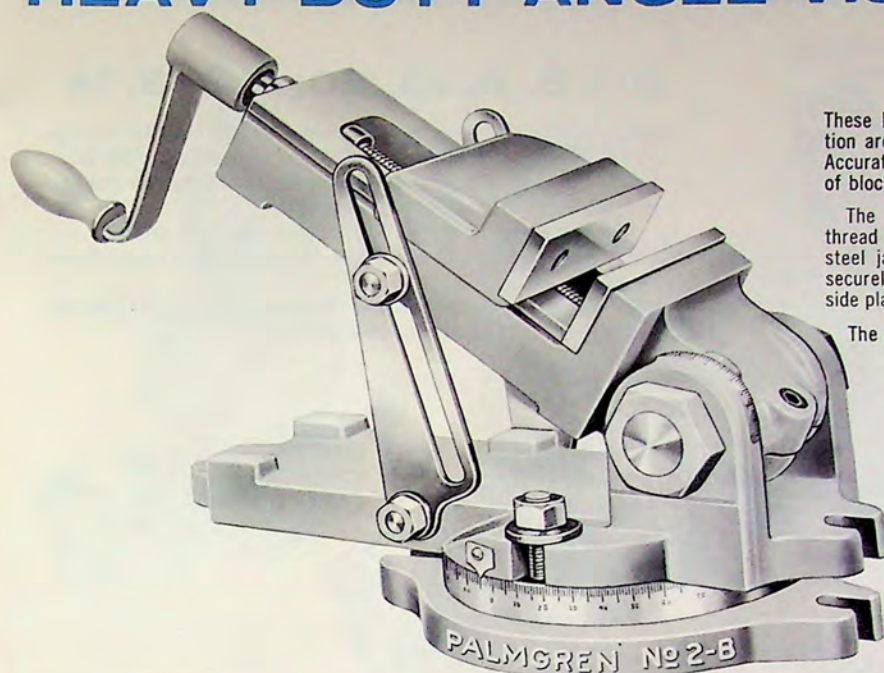
These sturdy angle vises are indispensable on work that frequently requires angle setups for drilling, tapping, milling and grinding.

The body is calibrated for quick and accurate setting at any required angle from 0° horizontal to 90° vertical. Securely locked at required angle with four screws and two side plates. The swivel base provides complete rotation and is calibrated full 360°. Swivel base can be removed from the angle base. Castings of selected fine grain, high strength grey iron, are accurately machined. Hinge pin hole is precision drilled and reamed for smooth accurate angle settings, with no lateral end play. Bases have $\frac{5}{8}$ " keyway and two bolt slots for locating and mounting on machine table.



Model No.	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	Weight with Base
23B	12"	3 $\frac{3}{4}$ "	3"	6"	9"	7 $\frac{1}{4}$ "	10 $\frac{1}{4}$ "	$\frac{3}{8}$ "	1 $\frac{1}{4}$ "	4"	5 $\frac{3}{4}$ "	3"	1 $\frac{1}{2}$ "	$\frac{3}{8}$ "	4 $\frac{1}{2}$ "	23 lbs.
24B	13 $\frac{1}{4}$ "	4 $\frac{1}{4}$ "	4"	7"	10 $\frac{1}{4}$ "	8 $\frac{1}{4}$ "	12"	$\frac{3}{8}$ "	1 $\frac{1}{4}$ "	4 $\frac{3}{4}$ "	5 $\frac{3}{4}$ "	4"	2 $\frac{1}{4}$ "	$\frac{3}{8}$ "	5 $\frac{1}{2}$ "	36 lbs.

HEAVY DUTY ANGLE VISES | PALMGREN



NO. 2B-3B-4B

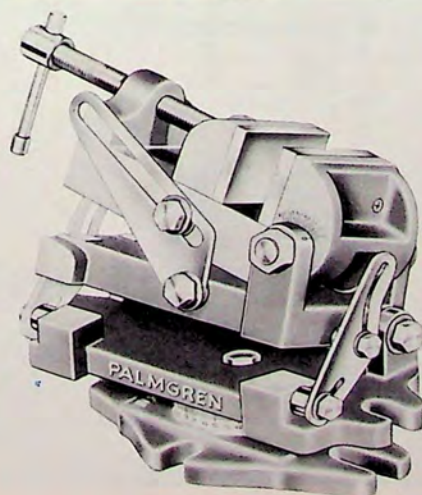
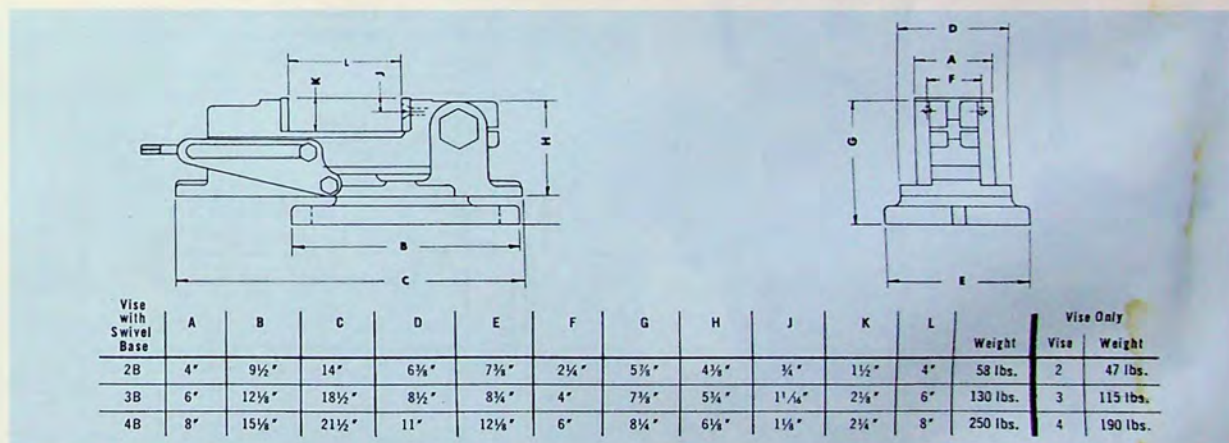
These Heavy Duty Angle Vises with extra heavy construction are manufactured to provide accuracy and durability. Accurate quick angular set-ups are assured without the use of blocks or wedges.

The oversize lead screws have precision cut Acme thread and replaceable thrust bushings. The two ground steel jaw plates are removable. Vises can be raised and securely locked at required angle by hardened nuts and side plates.

The angle base hinge boss is graduated from 0° to 90° for easy direct reading. Oversize hinge pins give smooth action and stability. Angle base has $\frac{1}{4}$ " keyways and four bolt slots for mounting parallel or at right angles to the machine table.

The removable swivel base is graduated a full 360° for complete rotation. Two bolts are provided for secure locking of vise at any desired position. The swivel base also has $\frac{1}{4}$ " keyways and two bolt slots for locating and mounting on machine table.

These vises are especially suited to heavy drilling, tapping, boring, milling, shaping and grinding operations. Indispensable time-saving equipment for work which frequently involves angle set-ups.



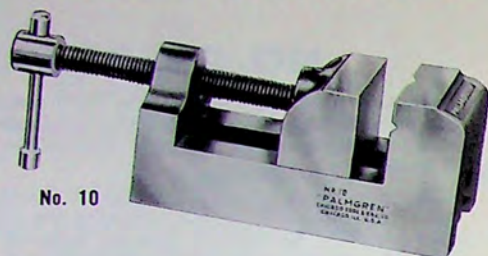
NO. 55 ALL ANGLE VISE

This is a universal angle vise that makes possible quick easy setup—for single angles and for compound angles. Adaptable for drilling, tapping, milling and grinding work. Body and base are calibrated 0° to 90° for ease of set-up. Locks securely in position for the angle or angles required.

Swivel base provides complete rotation and is graduated full 360°. The swivel base is detachable from angle base. Bases have $\frac{3}{8}$ " keyway and two bolt slots for mounting on machine table.

Vise No.	Width Jaws	Depth Jaws	Opening Jaws	Top Angle	Base Length	Weight Lbs.
55	2½"	1½"	2½"	90°	6"	18

PALMGREN DRILL PRESS VISES



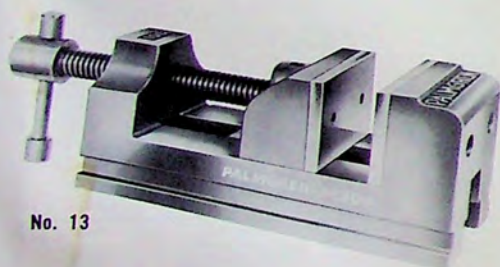
No. 10



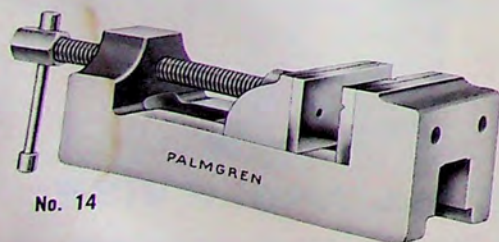
No. 20



No. 30



No. 13



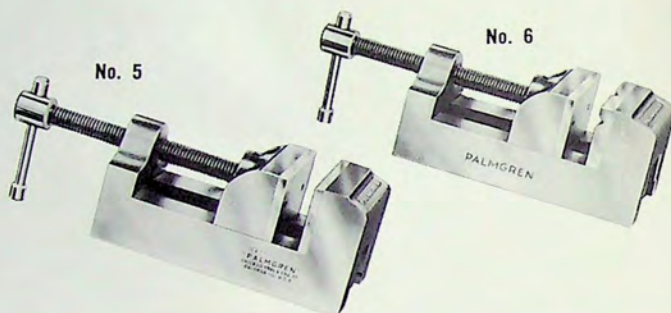
No. 14

NO. 5, 6, 10, 20, 30, 13, 14

These versatile drill press vises are just what you need for drilling, tapping, reaming, etc. They are available in sizes ranging from 1½" thru 4", with ground plain steel, or vertically and horizontally grooved steel jaw plates, or cast grooved jaw as shown.

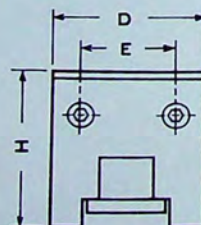
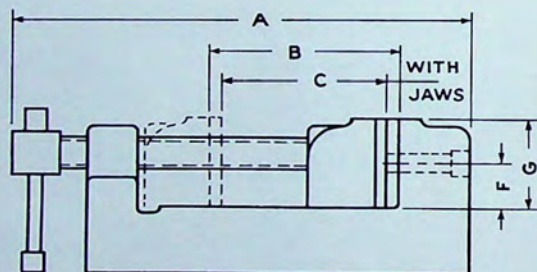
Adjusting screws on Models 5, 6, 10, 20 and 30 are precision cut coarse thread while the heavier Models 13 and 14 have a rugged Acme thread.

All vises can be turned on either side or placed on end for general use. Models 13 and 14 can also be inverted.

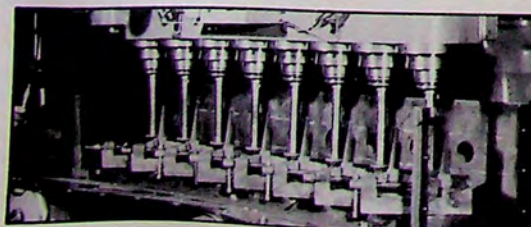


No. 5

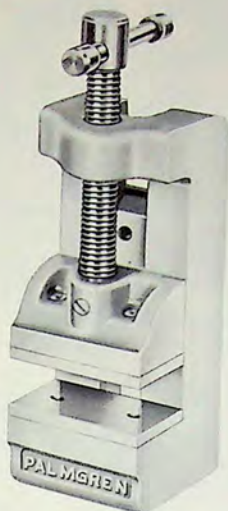
No. 6



Model No.	A	B	C	D	E	F	G	H	Net Weight
5	5	1½	1½	1½	¾	½	1	1½/16	2 lbs.
6	5½	1½	1½	1½	¾	½	1	1½/16	2 lbs.
10	7½	3	—	2½/16	1½	¾	1½	2½	6 lbs.
20	7½	3	2½	2½/16	1½	¾	1½	2½	6 lbs.
30	7½	3	2½	2½/16	1½	¾	1½	2½	6 lbs.
13	7½	3½	3	3	1½	¾	1½	3	11 lbs.
14	10½	4¾	4	4	2½	¾	1½	3½	19 lbs.



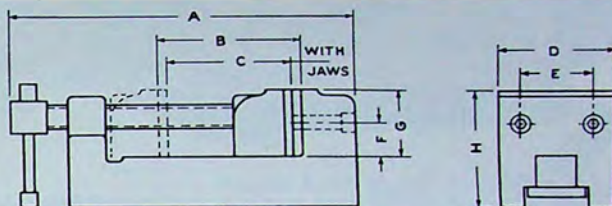
DRILL PRESS GROUND VISES | PALMGREN



GROUND VISES

These precision ground vises are machined and ground on all sides to assure accurate positioning for grinding and layout operations. They may be turned on either side, end or upside down.

All four vises are made of high grade gray iron and are precision ground for squareness and parallelism to $\pm .0001$ " per inch. The ground steel jaw plates are removable. Adjusting screws are steel, with fine pitch thread and long bearing in vise body.

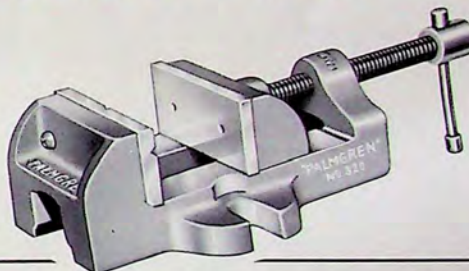


Model No.	A	B	C	D	E	F	G	H	Net Weight
11G	5"	1 1/4"	1 1/4"	1 1/2"	3/4"	1/2"	1"	1 1/4"	2 lbs.
22G	7 1/4"	3"	2 1/4"	2 1/4"	1 1/2"	3/4"	1 1/2"	2 1/4"	6 lbs.
13G	7 1/2"	3 1/2"	3"	3"	1 1/4"	3/4"	1 3/4"	3"	11 lbs.
14G	10 1/4"	4 1/4"	4"	4"	2 1/4"	3/4"	1 3/4"	3 1/4"	19 lbs.

NO. 120-320 DRILL PRESS VISES

Handy general purpose vises every shop needs. Highly recommended for use on drill presses, milling machines, grinders and many other machines. They have strong fine thread adjusting screws and ground steel jaws grooved horizontally and vertically for convenience in holding round pieces. Bolt lugs are provided for ridged mounting on machine table.

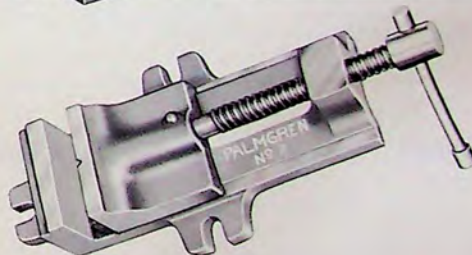
Vise No.	Width Jaws	Depth Jaws	Opening Jaws	Length Overall	Height Overall	Weight
120	1 1/2"	1"	1 1/2"	4 1/2"	1 1/4"	3 lbs.
320	3"	1 1/2"	3"	8"	2 1/4"	8 lbs.



NO. 7 UTILITY VISE

Milling, drilling, grinding are but a few jobs that can be done with this sturdy, compact vise. Overall height is only 2 3/8". The movable jaw is grooved vertically for holding round work. The heavy steel adjusting screw has a coarse pitch Acme thread for fast action. Three bolt lugs are located on the vise base for mounting on the machine table.

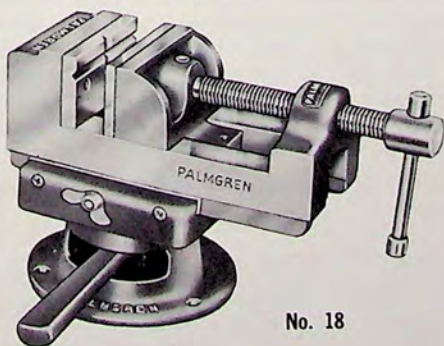
Vise No.	Width Jaws	Depth Jaws	Opening Jaws	Length Overall	Height Overall	Weight
7	3 1/2"	1 1/4"	4"	14"	2 3/8"	12 lbs.



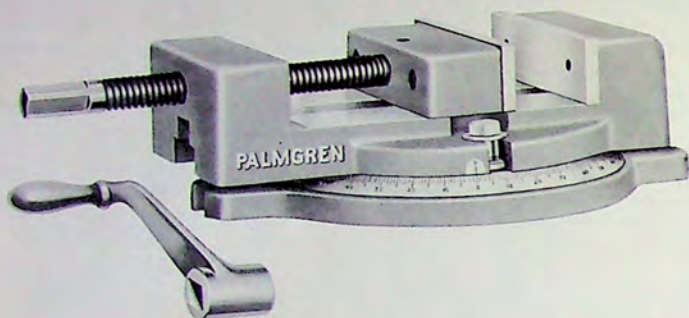
No. 12-18 Bench Drill Press Vises

These vises are extremely valuable dual purpose vises that operate on bench or drill press without removing work from vise. The vise body is square all around, and can be used on either side, on end or in horizontal position. Dovetail slots on either side of vise slide into bench base adapter. The vise and adapter assembly can be rotated and locked in any position on the bench swivel base by using cam lever which is easily locked and released.

Vise No.	Width Jaws	Depth Jaws	Opening Jaws	Length Overall	Height Overall	Weight
12	2 1/2"	1 1/4"	2 1/2"	8"	4 1/4"	9 lbs.
18	4"	1 1/4"	4"	11"	6 1/2"	35 lbs.



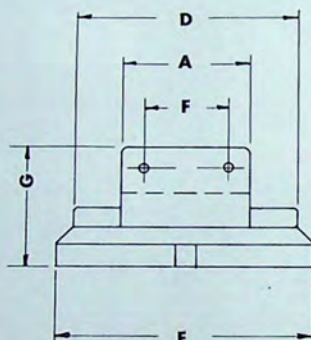
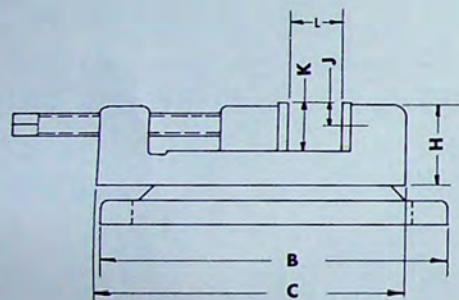
No. 18

PALMGREN**SWIVEL MACHINE VISES****NO. 325 B-425 B "LOW BOY"
SWIVEL MACHINE VISES**

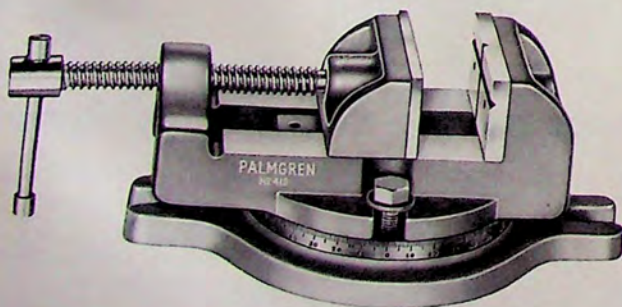
These rugged heavy duty vises are designed for applications where low overall height is necessary. Including swivel base these vises are only 3½" and 3½" in height. They are used on drill presses, milling machines, grinders and shapers.

These vises are completely rotatable with swivel base graduated a full 360°. Two screws and swivel locking plate securely lock the vise at any position as required. The vise can be removed and used without the swivel base.

For locating and mounting on machine table the base has 7/16" keyway and two bolt slots. Lead screws have precision cut Acme thread and castings are high strength gray iron, accurately machined. Both the body and follower are equipped with ground steel jaw plates.



Vise with Swivel Base No.	A	B	C	D	E	F	G	H	J	K	L	Weight	Vise Only No.	Weight
325B	3½"	8"	7¼"	5½"	6¼"	2"	3¼"	1½"	½"	1½"	3"	15 lbs.	325	11 lbs.
425B	4½"	9"	8¼"	6½"	7¼"	3"	3½"	2½"	¾"	1¾"	4"	25 lbs.	425	18 lbs.

NO. 310-410-610 SWIVEL MACHINE VISES

These durable vises are accurately machined of high grade iron castings with ground steel jaws to withstand hard usage.

The body jaw-plate is extra heavy steel with one horizontal and one vertical groove. The steel adjusting screw has a precision cut Acme thread with extra long thread bearing in the body. The swivel base provides complete rotation to any horizontal angle and is graduated the full 360° for accurate angle settings. Two bolts and a steel swivel plate provide positive locking of body at required angle. The base has 5/8" keyway and two bolt slots for locating and mounting on machine table.

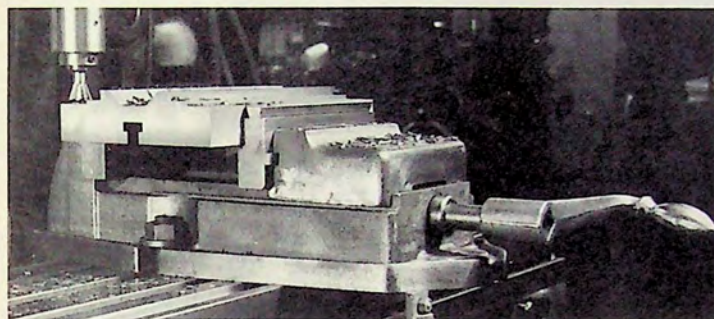
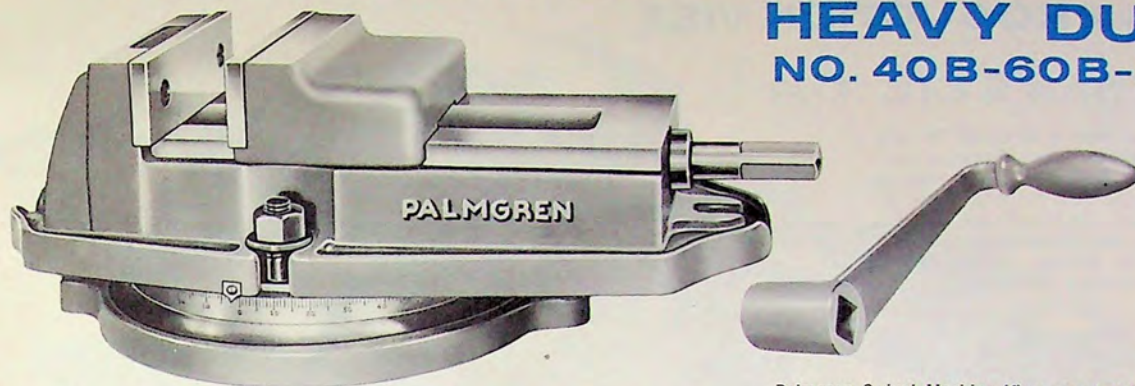
Excellent vises for milling, grinding, drilling and tapping operations.

Vise No.	Width Jaws	Depth Jaws	Opening Jaws	Length Overall	Height Overall	Net Weight with Base
310	3"	1½"	3"	9"	3½"	12 lbs.
410	4"	1¾"	4"	11½"	4½"	23 lbs.
610	6"	2"	6"	14½"	5½"	50 lbs.

SWIVEL MACHINE VISES | PALMGREN

HEAVY DUTY

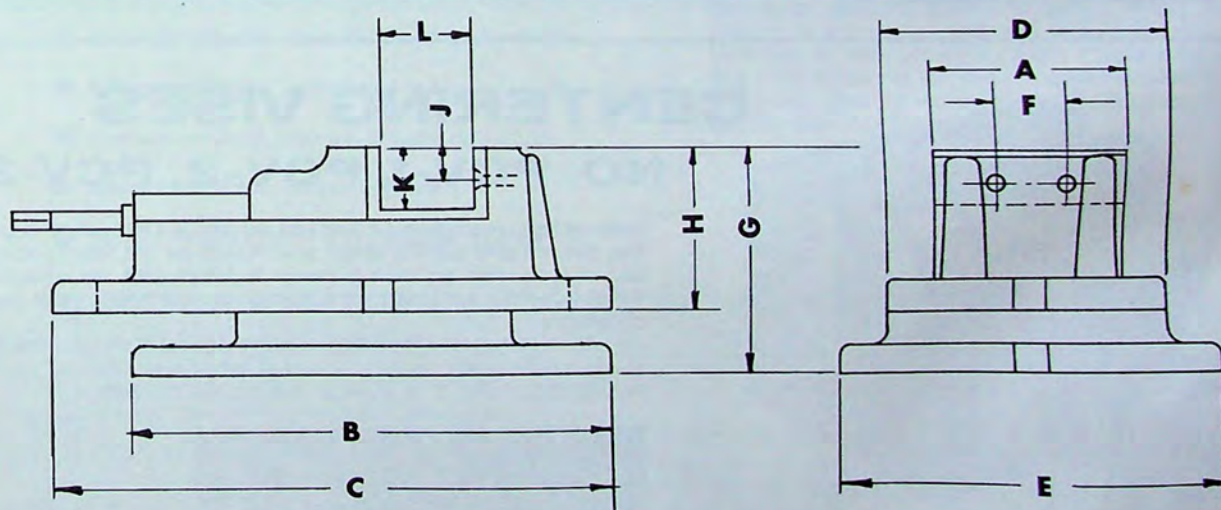
NO. 40B-60B-80B



Palmgren Swivel Machine Vises are tough, rugged, heavy duty vises built for production, tooling and maintenance. Each body casting is equipped with an extra heavy, double ribbed forward section to provide unusual strength for milling, shaping, drilling and grinding.

A deep coolant trough which drains at front and back, and bolt lugs on all four sides, are provided on the flanged base. 11/16" keys are supplied to attach the vise parallel or at right angles to the machine table. The swivel base is equipped with 2 bolt lugs, as well as a keyway and keys.

The removable steel jaw plates are ground, and the Acme thread adjusting screw is equipped with a replaceable screw bushing and thrust collar. An adjustable brass point is located on the vise base to provide for quick, accurate degree setting. Each vise may be used with or without the 360° graduated swivel base.



Vise with Swivel Base No.	A	B	C	D	E	F	G	H	J	K	L	Weight Lbs.	Vise Only No.	Weight Lbs.
40B	4"	9 1/8"	13 1/4"	6 1/8"	7 1/4"	2 1/4"	5 1/2"	4"	3/4"	1 1/2"	4"	45	40	34
60B	6"	12 1/2"	18"	9"	10 1/2"	4"	6 1/4"	5"	1"	2"	6"	107	60	80
80B	8"	15 1/4"	21 1/2"	11"	12 1/4"	6"	7 3/4"	5 1/2"	1 1/8"	2 1/4"	8"	190	80	150

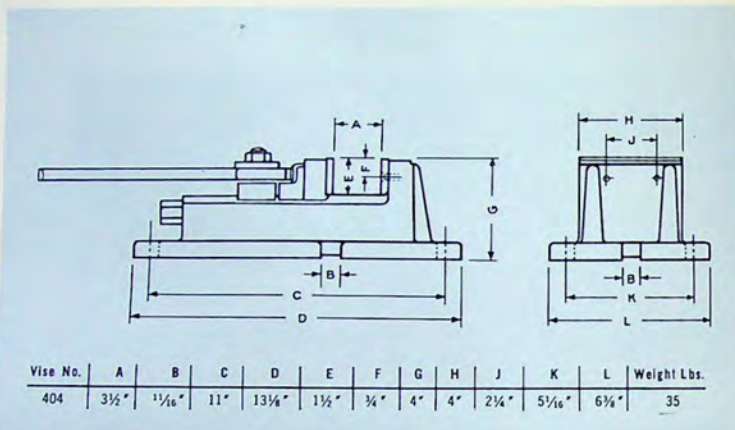
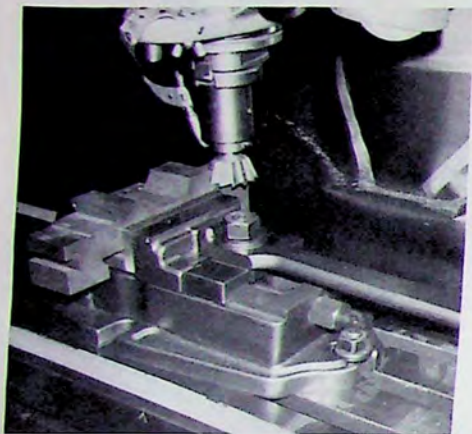
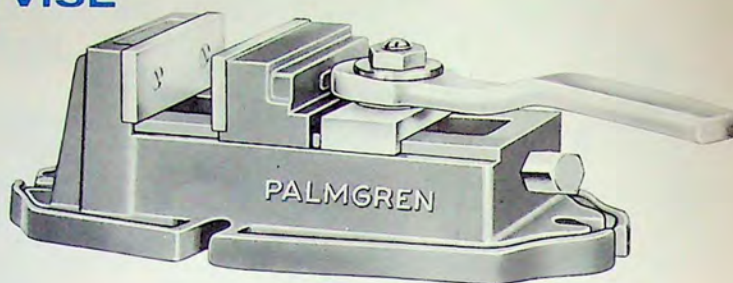
EXTRA HANDLES

No. 6H Crank Handle for 4" Vise, ... Wt. 2 lbs.
 No. 10H Crank Handle for 6" Vise, ... Wt. 2 lbs.
 No. 14H Crank Handle for 8" Vise, ... Wt. 3 lbs.

PALMGREN PRODUCTION VISES

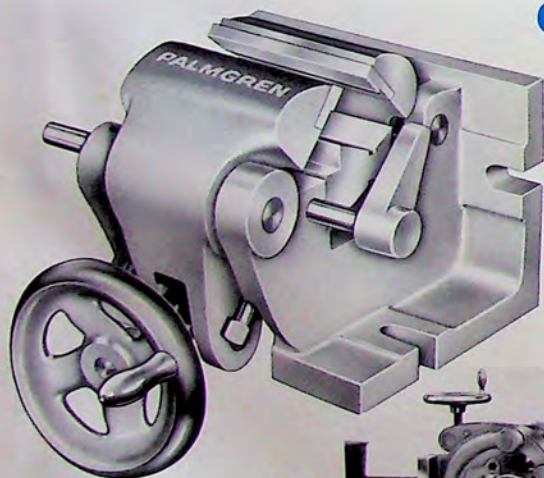
NO. 404 PRODUCTION VISE

The No. 404 Production Vise is designed for long, trouble free operation with no valves, fittings or hoses to maintain. This fast mechanical production vise has a swing handle lock and retracts the moving jaw $\frac{3}{8}$ " for loading and unloading. Stationary jaw and body are of one piece cast iron construction. This vise is especially suited for drilling, tapping, milling, grinding and other production operations.

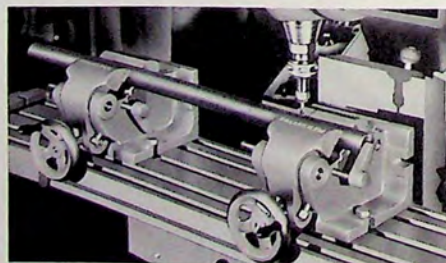


CENTERING VISES

NO. PCV-1, PCV-2, PCV-3



Palmgren Centering Vises can be used horizontally or vertically.



Centering Vises are constructed to hold bars and tubes in a firm concentric grip. They feature 4 point clamping contact so workpieces are held securely without hard clamping which can result in damage to delicate parts. The supporting V-block is hardened and ground and is reversible to accommodate a wide range of diameters.

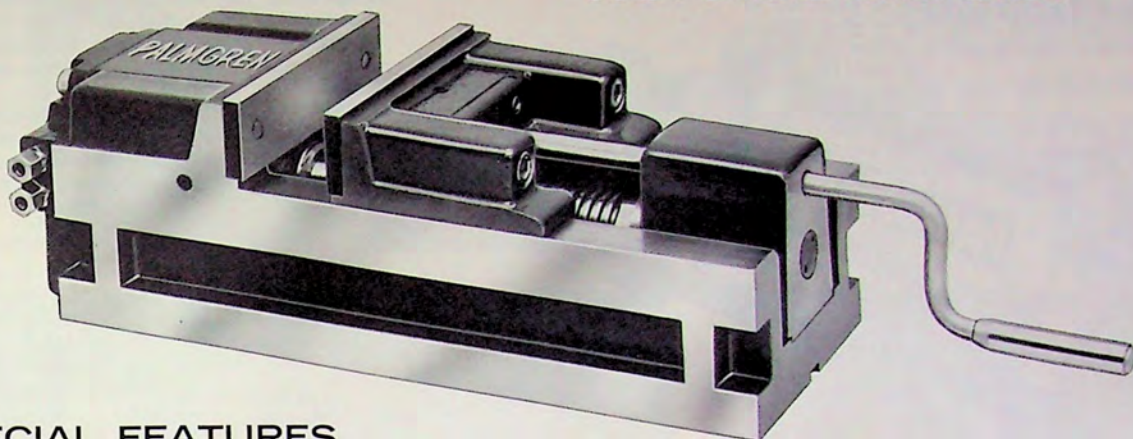
Adjustable stop for production milling of slots swings out of the way when not in use. The vise is precisely manufactured of highest quality material, has an accuracy of parallelism of .006" per ft. It is available in 3 sizes.

Centering Vises are available in matched sets (with a tolerance between center heights of .002") for an additional 20%.

VISE NO.	Width of Jaws	Workpiece Diameter		Stock Size	Centering Height		Weight Lbs.
		Min.	Max.		Vert.	Horiz.	
PCV-1	3½"	¼"	2"	¾"	4"	4¼"	46
PCV-2	4½"	¾"	3½"	¾"	4¾"	5¾"	64
PCV-3	7½"	2"	5½"	2"	7½"	7¾"	163

AIR-HYDRAULIC VISES | PALMGREN

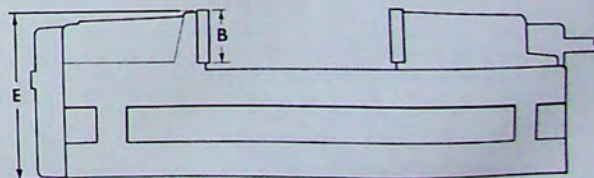
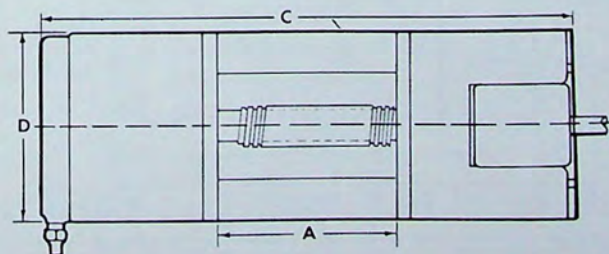
NO. 3132 and 3151



SPECIAL FEATURES

- Compact design, low height
- Easy to automate
- Positive grip on workpiece
- High-grade cast iron frame
- Accurately located jaws hardened and ground
- Flat ground slide, bottom and sides
- Operates without external booster or pump
- Mounts on bottom and either side
- Sturdy construction—long trouble-free service

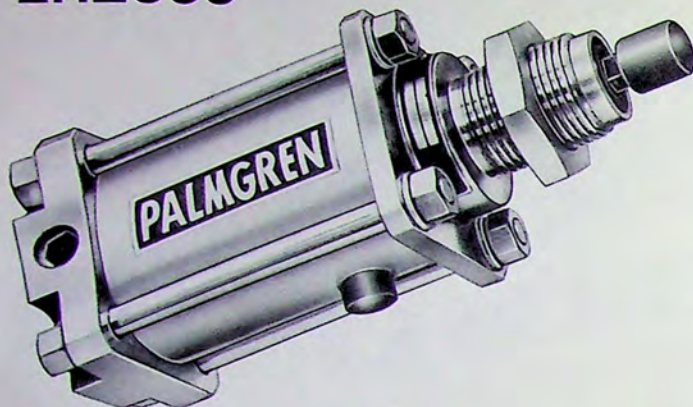
AIR HYDRAULIC VISES work on a dual system of air and hydraulic pressure and operate off conventional (85 psi) air lines. Both systems are housed in the bodies of the vises, eliminating the need for external boosters or pumps. The clamping action is such that even in the event that line pressure should drop or fail the jaws will not release, causing damage or injury. Automatic control is obtained by any conventional pneumatic control arrangement, making it ideal for use in production engineering. Available in 2 sizes. These vises are easily secured to machine tables with standard T-slot clamps and can also be mounted on either of their ground sides. The vise is a highly accurate yet rugged tool that gives long trouble-free service.



WISE NO.	Force Lbs.	Stroke	Jaw Opening	Jaw Depth	Overall Length	Overall Width	Overall Height	Keyway	Weight Lbs.
3132	4400	5/16"	5 1/2"	2"	16 1/2"	6 1/4"	5 3/8"	1 1/16"	82
3151	8800	5/16"	6 1/4"	2 1/8"	19 1/8"	7 1/16"	6 7/16"	1 1/16"	113

PALMGREN | LH AIR-HYDRAULIC UNITS

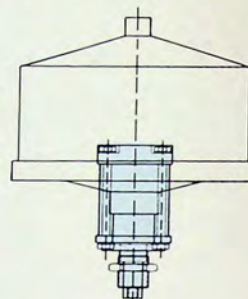
LH500, LH1000, and LH2000



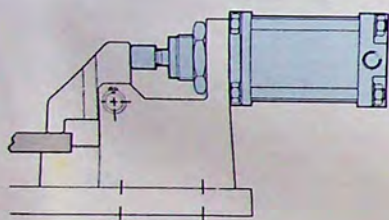
LH POWER UNITS are ideal for securing workpieces for machining operations. They lend themselves to automatic control with conventional air lines and valves, and are intended for use in high force, short stroke applications. Simple design, quality material and precision manufacturing give these units the ability to withstand rough treatment.

Their ease of installation, compact size and operational reliability make them perfect for systems having a number of interacting parts. The integral twin cylinder design permits use of standard (85 psi) air lines without need of external pumps or boosters.

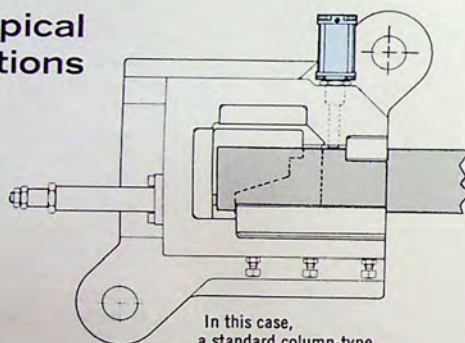
LH Unit is shown with piston type pneumatic cylinder capable of same force.



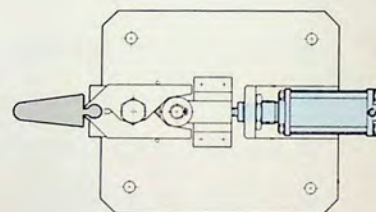
Typical Workholding Applications



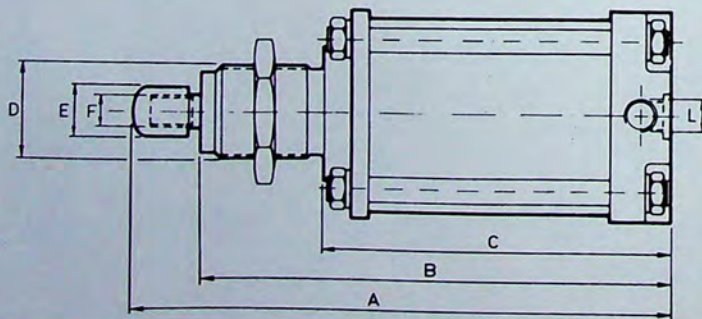
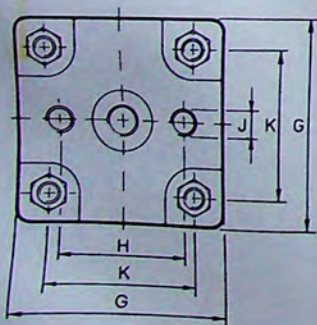
This unit is used to secure a workpiece in a fixture. The holding force is obtained from the LH unit, which actuates a lever securing the workpiece.



In this case, a standard column-type press is being used to cut a forging blank made from flat bar. The LH unit added to the press provides the requisite holding force.



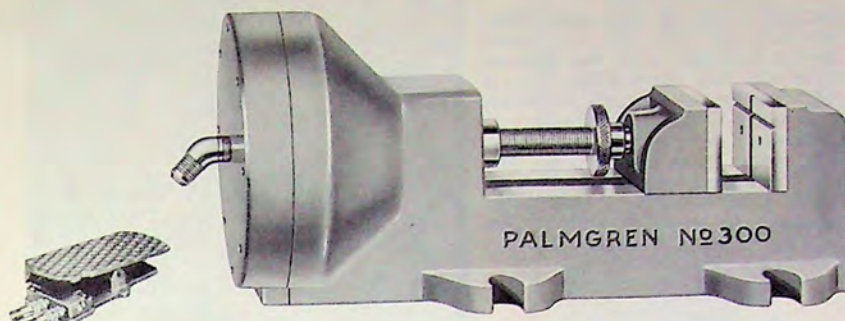
This fixture is used for drifting. The workpiece is secured by tongs actuated by a roller. The roller holder is mounted so that it moves in guides. The roller holder is joined to the LH unit that supplies the requisite holding force.



Type designation	Force lbs./in.	Stroke in.	A in.	B in.	C in.	D Thread	E in.	F Thread	G in.	H in.	J Thread	K in.	L Thread	Weight lbs.
LH500-5	1100	.20	6.575	5.709	4.252	M30X2	.610	M10	2.559	1.575	5/16-24	1.811	1/4"	3 1/2
LH500-10	1100	.39	8.898	8.031	5.787	M30X2	.610	M10	2.559	1.575	5/16-24	1.811	1/4"	3 3/4
LH1000-5	2200	.20	7.402	6.496	5.039	M36X3	.669	M12	2.953	1.969	5/16-24	2.205	1/4"	5 1/2
LH1000-10	2200	.39	9.764	8.858	7.008	M36X3	.669	M12	2.953	1.969	5/16-24	2.205	1/4"	6 1/4
LH2000-5	4400	.20	7.953	7.008	5.512	M36X3	.669	M12	3.543	2.362	3/8-24	2.638	1/4"	7 3/4
LH2000-10	4400	.39	10.984	10.039	7.795	M36X3	.669	M12	3.543	2.362	3/8-24	2.638	1/4"	8 3/4
LH2000-15	4400	.59	11.417	10.118	7.480	M48X3	.866	M16	4.724	3.150	3/4-24	3.504	1/4"	15 3/4

AIR VISES | PALMGREN

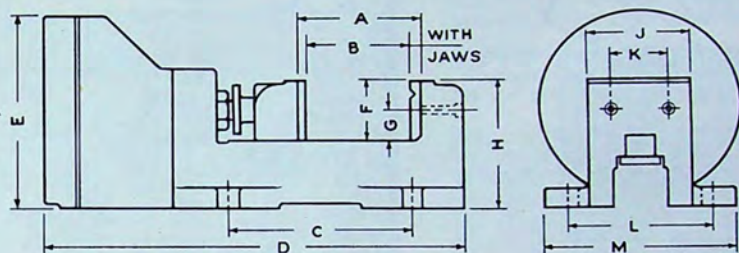
NO. 300 AIR VISE



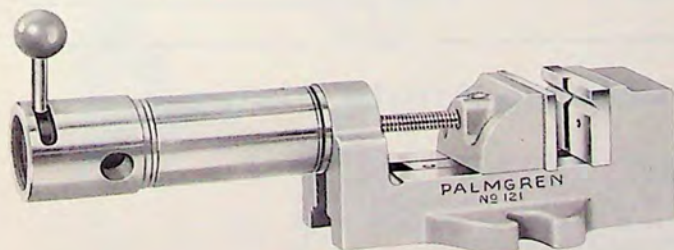
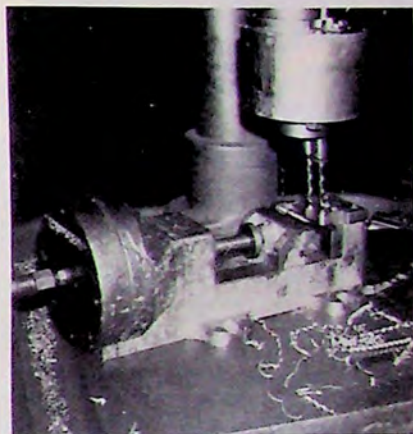
The No. 300 Air Vise, with 3" jaw, is designed for all types of machining operations: light, medium or heavy duty. Quick, easy set-ups for production, milling, drilling, grinding, tapping, sawing and assembly.

Foot pedal operation leaves both hands free to load and unload with speed.

Vise is supplied with foot pedal, air hose and fittings. Ground steel jaw plates are provided, one of which is grooved horizontally and vertically for holding round work. These jaws can be easily removed to accommodate special jigs and fixtures. Clamping pressure is 15 times air pressure.



Model No.	A	B	C	D	E	F	G	H	J	K	L	M	Weight
300	3 1/4"	3"	5 1/4"	12"	5 1/4"	1 1/4"	3/4"	3 3/4"	3"	1 1/4"	4 1/4"	5 1/2"	38 lbs.

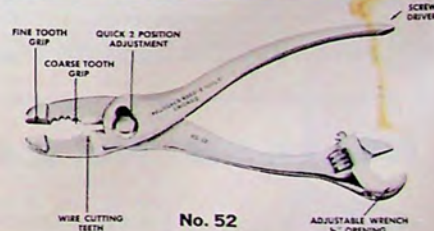


NO.121-NO.321 AIR VISES

Designed for light drilling, milling, tapping and assembly, these Vises are equipped with stainless steel air cylinder with adjustable stroke. Air cylinder and valves are combined in one compact unit. Clamping pressure is .8 times air pressure for Model 121 and 1.7 times for Model 321.

Vise No.	Width Jaws	Depth Jaws	Opening Jaws	Length Overall	Weight Lbs.
121	1 1/2"	1"	1 1/2"	8"	4
321	3"	1 1/2"	3"	12"	10

HAND TOOLS



NO. 52 PLIER-WRENCH slip joint, screwdriver, wire cutter and adjustable wrench in one trim tool. Hardened cutting edges. Forged alloy steel. Chrome plated. Overall Length 6 1/2". Capacity of Pliers 1". Weight 1 lb.



NO. 15 ALUMINUM HAND VISE. Ideal for holding small pieces for drilling, filing, grinding, polishing and hand tapping. All aluminum body and jaws, tempered steel spring holds jaws open to receive work piece.

Vise No.	Width Jaws	Depth Jaws	Opening Jaws	Length Overall	Weight Lbs.
15	1 1/2"	3/4"	1"	5"	1 lb.

PALMGREN WORK HOLDERS & POSITIONERS

No. 901 Work Holder and Positioner

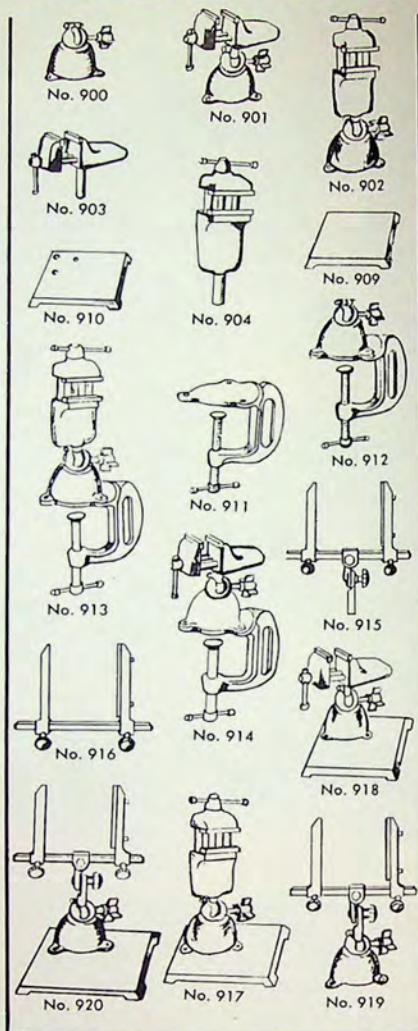


Perfectly suited for electronics, radio, laboratory and other fine work where speed and strength count. Vise head and screw lock base has complete turn of 360°. Vise head tilts fast and firm to any angle within 90° range.

Accessory items include bench clamp base, surface plates, end mount vise body and circuit board holder. Select from additional pieces pictured and described on this page. All attach quickly. Ideal for bench or conveyor assembly operations. Vise has 2½" jaw width and opening.



No.	Item	Weight
900	Positioner Base	3
901	Horizontal Mount Vise and Positioner Base	4
902	Vertical Mount Vise and Positioner Base	4
903	Horizontal Mount Vise Only	2
904	Vertical Mount Vise Only	2
909	10" x 10" Gray Iron Surface Plate, Plain	11
910	10" x 10" Gray Iron Surface Plate, Tapped	11
911	Bench Clamp, Only	3
912	Bench Clamp and Positioner Base	5
913	Bench Clamp, Positioner and Vertical Vise	7
914	Bench Clamp, Positioner and Horizontal Vise	7
915	Circuit Board Holder, Complete	2
916	10" Bar and Holder Arms Only	1
917	Surface Plate, Positioner and Vertical Vise	15
918	Surface Plate, Positioner and Horizontal Vise	15
919	Board Holder and Positioner	4
920	Surface Plate, Positioner and Board Holder	14



No. 246B - No. 249B Adjustable Angle Plates



No. 246

The 246 is designed to securely hold flat or irregular parts not adaptable to vise work. Table top positions and locks from 0° horizontal to 90° vertical. Precision drilled and reamed for hinge pin to give smooth movement without lateral play. Can also be furnished with 360° graduated swivel base.

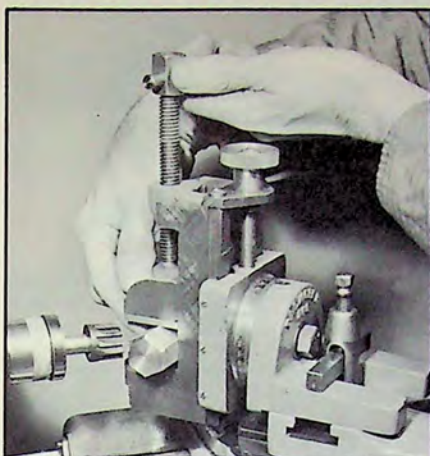
The 249B is the heavy duty version of the No. 246. Its rugged construction insures against wear. The plate top tilts and holds from 0° horizontal to 90° vertical. Complete 360° swivel base allows freedom to work in any position desired. Base is accurately and clearly calibrated in degrees to allow quick settings.



No. 246B

Plate Only No.	Top Size	Base Length	Height Plate and Base	Weight Lbs.	Plate with Base No.	Weight Lbs.
246	6" x 6"	8"	4½"	10	246B	14
249	9" x 9"	12½"	6½"	31	249B	36

LATHE MILLING ATTACHMENTS | PALMGREN



Converts lathe for milling in 10 seconds



T-Slotting



End Milling



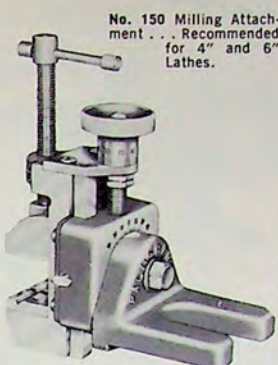
External Dovetail



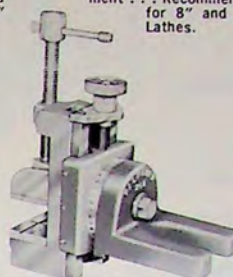
Cutting Keyways



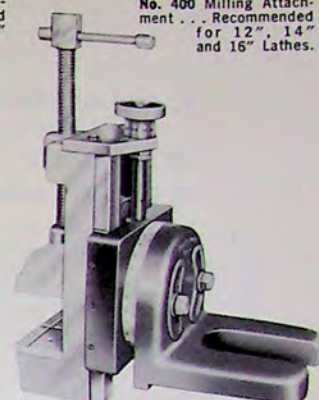
End Mill Angle Cut



No. 150 Milling Attachment . . . Recommended for 4" and 6" Lathes.



No. 250 Milling Attachment . . . Recommended for 8" and 10" Lathes.



No. 400 Milling Attachment . . . Recommended for 12", 14" and 16" Lathes.

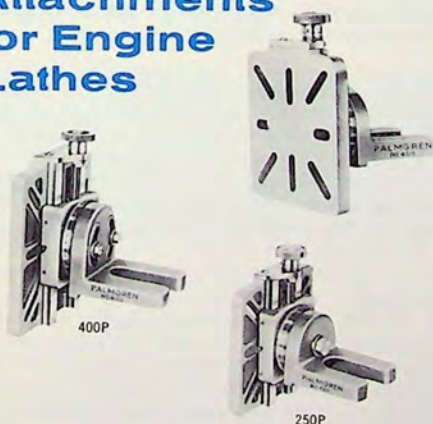
Milling Attachments can mill slots, keyways, grooves, flats, squares, hexagons, octagons, external and internal dovetails, sawing, grinding and drilling at any angle.

To set up on Lathe, remove the tool post ring around the "U" shaped base angle bracket, and the Milling Attachment straddles the tool post and is bolted down just like an ordinary tool holder.



Nos.	Fits Tool Posts Up To	Width Jaws	Depth Jaws	Opening Jaws	Weight Lbs.
150V	1" dia.	1½"	1"	1½"	5
250V	1¼" dia.	2½"	1½"	2½"	12
400V	2" dia.	4"	1¾"	4"	36

Milling Attachments for Engine Lathes



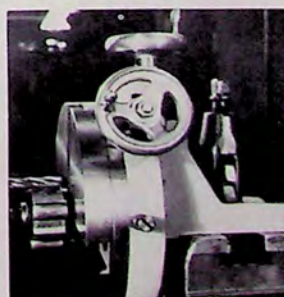
No. 800 Rotary Indexing Lathe Attachment with Vertical Feed

A compact, versatile unit provides an 8" diameter circular table surface for vise or fixture mounting. Rotary feed graduated in 3 minute intervals. Top rim graduated in degrees. Vertical slide adjusting screw is equipped with micrometer dial, calibrated in thousandths. Table top assembly similar to No. 83 Cross Slide Rotary Table. Table diameter is 8". Top graduation is 360°. Dials are 1" and 1¼". Gear ratio is 40:1. Table T-slots are ⅝". Fits tool post up to 2" in diameter. Vertical travel is 4". Rotary Feed Dial is graduated to 1/20° (3 min.). From tool post to face is 4¾". From compound to face is 3¾". Overall height is 11¾". Adjustable Gib with (3) adjusting and locking screws. Two clamps to lock Face-Plate when required for straight cutting. Weight 35 lbs.



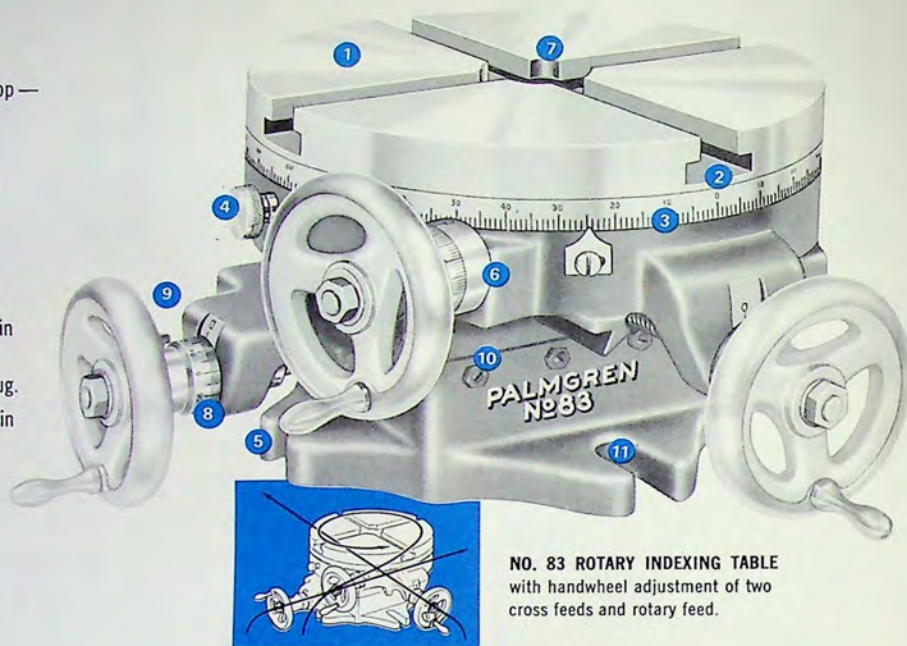
Palmgren Milling Attachments for engine lathes will enable you to mill slots, keyways, grooves, flats, squares; also drilling, sawing and grinding at any angle. Fits any lathe that has a tool post. Set up in 10 seconds.

No.	Fits Tool Post up to	Plate Size	Weight Lbs.
250P	1¼"	6" x 6"	13
400P	2"	9" x 9"	35



PALMGREN 8" ROTARY TABLES

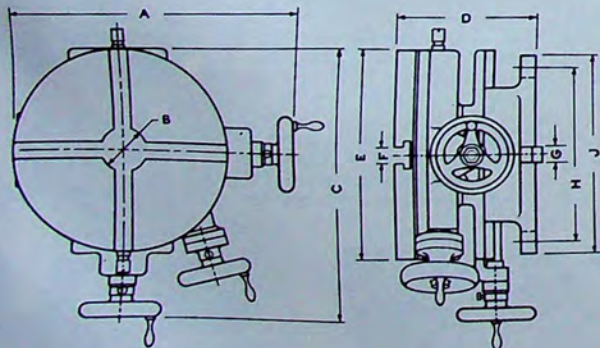
- (1) Heavy, cast, ribbed table top — precision ground.
- (2) T-Slots $\frac{5}{8}$ " x $\frac{1}{4}$ " x 1".
- (3) Graduated in degrees for full 360°.
- (4) 2 top locking screws.
- (5) Large base has 4 slots for bolting to drill press table.
- (6) Adjustable dial graduated in three minute increments.
- (7) Bored for $1\frac{5}{8}$ " locating plug.
- (8) Adjustable dial graduated in thousandths.
- (9) Locking screw for graduated dial.
- (10) 4 gib adjusting screws.
- (11) Base has $\frac{5}{8}$ " key to fit machine table slot.



NO. 83 ROTARY INDEXING TABLE
with handwheel adjustment of two
cross feeds and rotary feed.

CONVERTS YOUR DRILL PRESS INTO A VERSATILE PRECISION MACHINE TOOL

**FOR: milling, routing, cutting slots
and keyways, accurate indexing,
shaping, forming.**



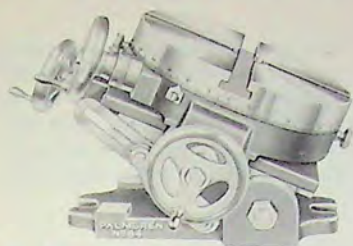
Now you can do hundreds of jobs that were never before possible using a standard drill press. Simply bolt a PALMGREN Rotary Table directly to your drill press table, and you can use your drill press for milling; routing; shaping; indexing; cutting slots and keyways; surface, internal and external grinding; and for hundreds of intricate shaping jobs in wood, plastic and metal.

PALMGREN Rotary Tables are rugged, precision made tables of industrial quality. They accurately position work in one, two, three or four separate directions, depending on the model and how you use it. All movements are infinitely adjustable by turning the large handwheels, except for the Model 82 which has a manually positioned rotary table. You feed work into the spindle by using any combination of the movements, or use the table for accurate positioning of work below the spindle. The table may be locked against rotation by tightening two locking screws. The two cross feed handwheel controls on Models 82, 83 and 84 have micrometer dials that are graduated in thousandths of an inch, and each dial is adjustable to permit starting at 0 or any convenient reference point. The Rotary Table is calibrated in degrees around its full circumference and the adjustable dials on the rotary feed handles of Models 83, 84 and 86 are calibrated in 3 minute intervals. This permits precise positioning with repeatable accuracy. Worm gear drive gives the table extremely smooth action. Gib adjusting screws ensure continued accuracy. The No. 83 table has a 40:1 gear ratio. Cross slide travel is $4\frac{1}{4}$ ".

Table No.	A	B	C	D	E	F	G	H	J	Weight Lbs.
83	10 $\frac{1}{8}$ "	1 $\frac{1}{4}$ "	10 $\frac{1}{2}$ "	5 $\frac{1}{4}$ "	8"	$\frac{3}{8}$ "	$\frac{3}{8}$ "	6 $\frac{3}{4}$ "	7 $\frac{1}{4}$ "	40

6" AND 8" ROTARY TABLES

PALMGREN



NO. 84 ROTARY TILTING INDEXING TABLE. Same precision handwheel adjustment of cross feeds and rotary feeds as No. 83, plus adjustable angle base that can be locked in any position from 0 degrees horizontal to 90° vertical. Hinge boss of base is graduated in 2° increments. 40:1 gear ratio. Cross slide travel is 4 1/4".



NO. 86 PLAIN ROTARY TABLE. Very compact with low 3 5/8" overall height. Smooth turning and minimum backlash are assured by precision cut worm gear. Dial is graduated in 3 minute increments. Thumb screw permits setting to 0 at start of work. Top is calibrated in 1° increments and has adjustable pointer. Two clamps lock top in any position.



NO. 82 DUAL FEED ROTARY TABLE. Similar to No. 83 with handwheel adjustment for cross feeds except top must be rotated by hand. Locks with 2 clamps. Circumference calibrated in 1° increments with adjustable pointer. 4 1/4" lateral and transverse feeds with dials graduated in .001" increments.



NO. 46 ROTARY TABLE. Only 2 3/16" high. Ideal for jobs where overall height is critical. 6" diameter top has two 3/8" x 5/8" T-slots. Center hole in top is bored 5/8". Smooth, 60:1 worm gear drive provides positive rotary feed. Top is graduated 360° in 1 degree intervals. Rotary feed dial is graduated in 6 minute intervals. Base is flanged and slotted for 3/8" bolts and 7/16" keyway. Top may be locked by thumb screw. Maximum projection of handle from center line is 7".



NO. 81 ROTARY TILTING SLIDE TABLE. Top rotates, moves longitudinally along Y axis, and elevates for angular settings from 0° horizontal to 90° vertical. Rim is precisely calibrated in 1° increments. Adjustable pointer on body aids in establishing reference point. Large dial on rotary index shaft is calibrated to read in 3 minute intervals. Dial for longitudinal feed is graduated at intervals of .001" with 4 1/4" cross feed.

Hinge boss of base is graduated in 2° increments for direct reading of angular settings. 8" diameter top has 1 5/8" diameter center bore and two 5/8" x 1" T-slots to assist in locating and mounting work. Base has a 5/8" keyway and two bolt slots for mounting to machine table.

Table No.	Table Diameter	Height Overall	Top Grad.	Base	Dials		Gear Ratio	Table T-Slots	Base Keyway	Weight Lbs.
					Cross Feed	Rotary Feed				
81	8"	5 1/4"	360°	5" x 9 1/4"	1"	1 1/4"	40:1	5/8"	5/8"	40
82	8"	5 1/4"	360°	6 1/2" x 7 3/8"	1"			5/8"	5/8"	38
84	8"	5 1/16"	360°	5" x 9 1/4"	1"	1 1/4"	40:1	5/8"	5/8"	45
86	8"	3 5/8"	360°	9 3/8" x 12"		1 1/4"	40:1	5/8"	5/8"	36

ROTARY TABLE ACCESSORIES



NO. 346 INDEXING ATTACHMENT for use with all 8" and 10" rotary tables. Equipped with two 2 1/2" diameter plates having 3 sets of holes for maximum range.

Plate No. 1—36, 30, 24 holes.
Plate No. 2—40, 34, 25 holes.
Complete including plates . . .



NO. 1346 INDEXING ATTACHMENT for use on all 12" and 15" diameter rotary tables. Equipped with 2 plates having 9 sets of holes each.

Plate No. 1—23, 28, 30, 32, 38, 41, 47, 51, 59.

Plate No. 2—26, 29, 31, 37, 39, 43, 49, 53, 66.

Will index all numbers up to 100 except 61, 67, 68, 71, 73, 77, 79, 81, 83, 84, 88, 89, 91, 92, 93 and 97.



NO. 8 VISE JAW SET Convenient for holding various jobs. Adjustable and fixed jaw complete with T-slot bolts, washers, and nuts.



NO. 13 T-SLOT BOLTS consist of four T-slot bolts, nuts and washers. Specify size required.

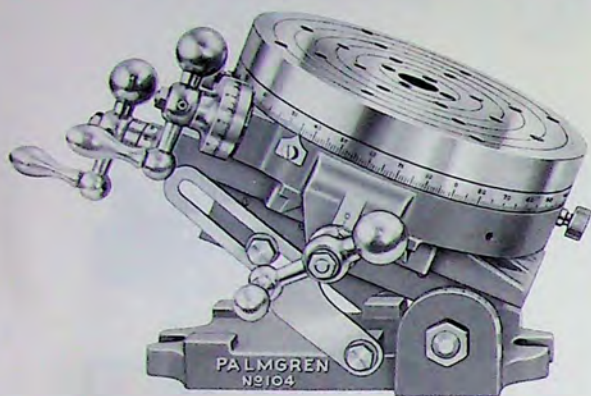
1/2—13 x 1 1/2"
1/2—13 x 2"



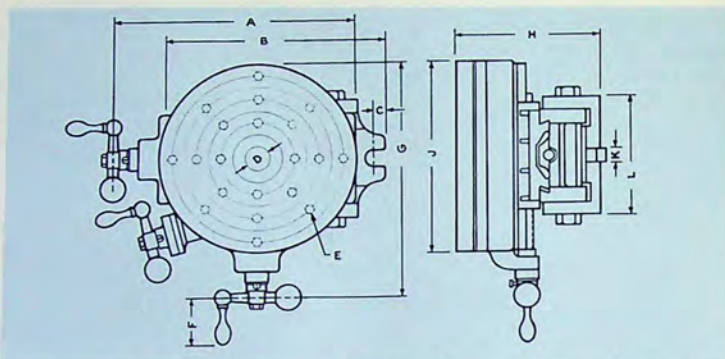
NO. 9 CENTERING PLUG BASE fits 1 1/4" center of all rotary tables except No. 46. Base is 1 1/8". stem is 1/2" x 1 1/2".

PALMGREN 8" ROTARY TABLES

NO. 104 ROTARY TILTING CROSS SLIDE TABLE

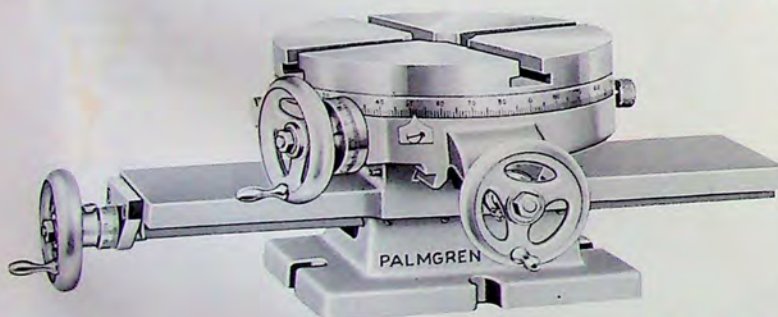


Provides all of the feeds and positioning in universal milling machines. Has two cross slides, rotary feed, and 0° to 90° tilting adjustment. Get quick, accurate angle set-ups for milling, drilling, grinding and also checking and layout work. Rotary and cross slide adjustments are the same as the No. 102 table, and the top surface is tapped as a locator plate in the same manner as the No. 103.



MODEL NO.	A	B	C	D	E	F	G	H	J	K	L	Weight
104	10"	9"	3/4"	1"	3/4" x 16	2"	9 3/4"	5 1/4"	8"	3/4"	5"	47 lbs.

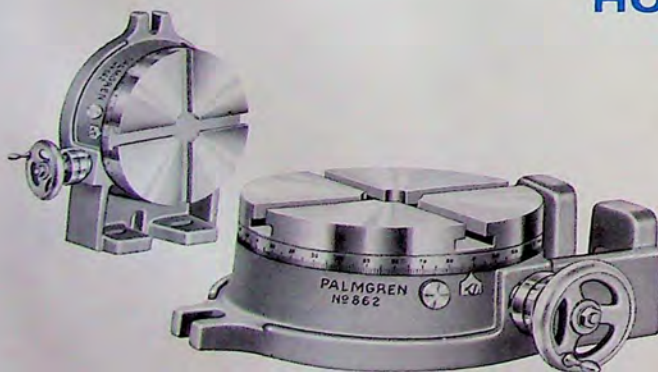
NO. 8315 DUAL CROSS SLIDE ROTARY TABLE



This precision table is ideal for use on drill press, milling machine, grinder and lay-out work where a long lateral feed is required. It features lateral travel of 11", transverse travel of 4 1/2" and 360° rotary feed. The 8" diameter top has a 1 1/8" diameter centerbore and two 5/8" x 1" T-slots for mounting work. The rim is graduated in 1° increments with an adjustable pointer and two clamps are provided for locking top in any position. The index dial is calibrated for accurate 3 minute readings and cross feed dials are graduated at .001 intervals. All dials have thumb screws for easy "0" setting. Worm and steel gibs can be adjusted for wear.

The large base has a 5/8" keyway and four bolt slots for mounting. It can be supplied with either 8" top or 10" diameter top.

NO. 862 VERTICAL HORIZONTAL INDEX TABLE



The dual position mounting makes this table exceptionally adaptable for many uses. Where work frequently requires accurate indexing, it is an indispensable item of shop equipment. It provides quick accurate set-ups for boring, drilling, reaming, tapping, grinding and milling operations.

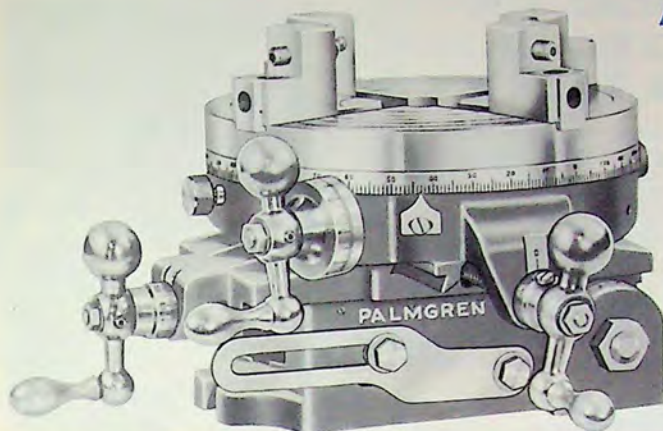
The 8" diameter top has a 1 1/8" diameter centerbore and two 5/8" x 1" T-slots for work holding. The rim of the top is precisely calibrated in 1° increments, and an adjustable pointer is provided on the body. The dial on the indexing shaft is graduated to 3 minutes for direct reading. A thumb screw permits setting this dial to "0" or any convenient reading at the start of work and two clamps secure the top without vibration or chatter during work operations. Precision cut worm and gear are used for indexing mechanism.

The base is provided with keyways and bolt slots for both horizontal and vertical mounting on machine table.

Table No.	Table Diameter	Height Overall	Top Grad.	Base	Dials	Gear Ratio	Table T-Slots	Base Keyway	Weight Lbs.
862-8	8"	3 1/2"	360°	9" x 11 1/2"	1 1/4"	40:1	3/4"	3/4"	44

8" ROTARY TABLES | PALMGREN

NO. 102 ROTARY TILTING AND CROSS SLIDE TABLE



This completely versatile table provides multiple usage for boring, milling, grinding, drilling and tapping operations. For accurate angle work it is essential equipment.

The No. 102 features rotary indexing thru a precision worm and gear, with dial calibrated to 3 minutes, and the table top graduated 360° with adjustable pointer for direct reading. The table has 4½" lateral and transverse cross feeds with dials graduated to .001" for accurate reading. The angle base is graduated to provide for quick, positive angle settings from 0° to 90°.

The 8" diameter top has a 1" diameter centerbore and two ⅝" keyways with tapped holes at ½" intervals. The top can be locked in any position by means of two clamps. Four reversible jaws are furnished which can be individually located to suit the work.

Slides have adjustable steel gibs, the Acme feed screws have adjustable thrust collars, and the rotary feed worm can be adjusted to compensate for wear.

The base has a ⅝" keyway and two bolt slots for positive location on the machine table.

NO. 103 ROTARY AND CROSS SLIDE TABLE



This compact, sturdy unit is designed for use on drill presses, grinders, milling machines and shapers, as well as layout work.

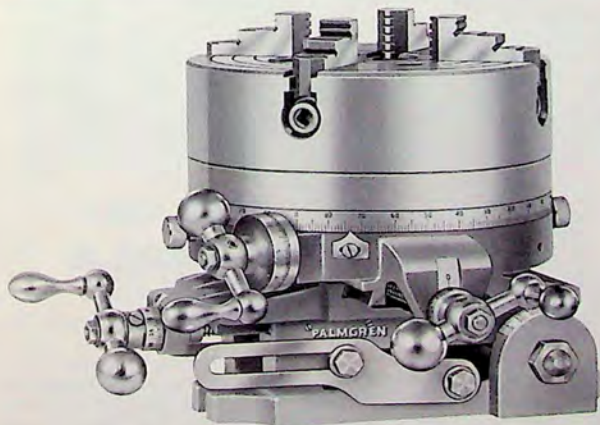
Rotary feed is positive and adjustment is provided for wear in worm and gear. Dial is calibrated in 3 minute intervals and top is graduated 360°.

Lateral travel, as well as transverse travel, is 4½" and slides are furnished with adjustable gibs for sustained accuracy and minimum wear. Dials are graduated in .001", and Acme feed screws have adjustable thrust collars to provide ease of travel to suit operation and material.

Top surface of table is tapped as a locator plate. Five concentric circles are scribed ½" apart from outer edge, converging on center. Four equally spaced holes are drilled and tapped on each circle to provide uniform positioning and location of work piece. Center is bored 1" diameter, ¾" deep for centering plug.

Large square base with keyway and four bolt slots and heavy ribbed bottom slide provide rugged construction to assure accurate performance.

NO. 106 ROTARY TILTING AND CROSS SLIDE TABLE



The new Palmgren No. 106 Compound Rotary Tilting Table with 4-Jaw Chuck is completely versatile for milling, drilling, grinding, and other machining operations, as well as checking and layout work. The No. 106 Table provides 4¼" longitudinal and transverse travel, 360° rotary feed, 0°-90° tilt positioning and 8" diameter independent 4-jaw chuck for holding work.

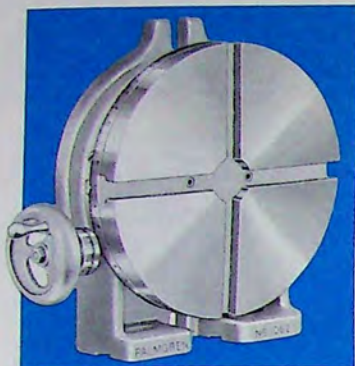
Cross slide dials are graduated in thousandths and rotary dial is calibrated in 3 minute (½°) intervals. The tilting base is graduated 0° to 90° and can be securely locked in any position.

Chuck top may be removed if not required.

No.	Table Diameter	Height Overall	Top Graduation	Base Dimensions	Gear Ratio	Base Keyway	Weight Lbs.
102	8"	7"	360°	9¼" x 5"	40:1	⅝"	49
103	8"	5¼"	360°	7⅝" x 6⅝"	40:1	⅝"	44
106	8"	9½"	360°	9¼" x 5"	40:1	⅝"	73

PALMGREN 10" ROTARY TABLES

NO. 1062 VERTICAL OR HORIZONTAL INDEX TABLE

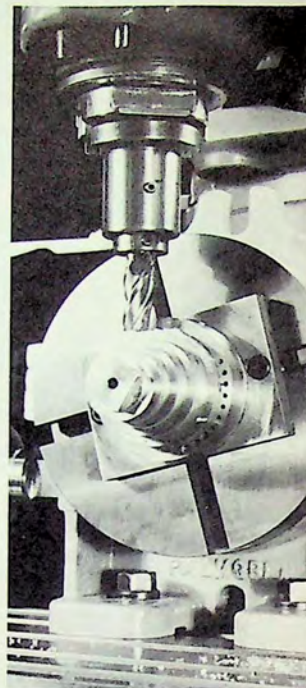


Vertical Mounting

The No. 1062 Vertical, Horizontal Index Table is a sturdy unit with dual position mounting which makes these tables exceptionally adaptable for many uses.

Table top diameter is 10" with two $\frac{5}{8}$ " x 1" T-slots and $1\frac{1}{2}$ " diameter centerbore for work holding. The rim of the top is graduated in 1° increments and a pointer is provided in the body. The dial collar on the index shaft is graduated for 1 minute readings. Adjustment for "0" setting is provided. Two thumb screw clamps secure the top firmly in any position. Precision cut worm and gear can be adjusted for wear.

The base is provided with keyways and two bolt slots for both horizontal and vertical mounting on machine table.



Horizontal Mounting

PALMGREN No 1062

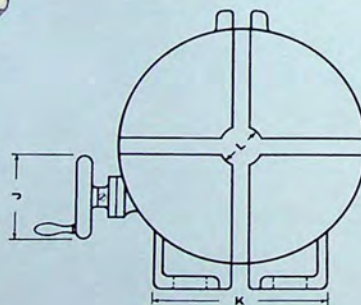
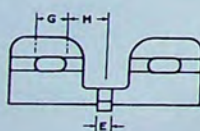
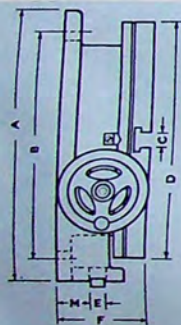


TABLE NO.	A	B	C	D	E	F	G	H	J	K	L	M	Weight
1062-10	12"	10 $\frac{1}{4}$ "	$\frac{1}{2}$ "	10"	$\frac{1}{2}$ "	3 $\frac{11}{16}$ "	1 $\frac{1}{4}$ "	1 $\frac{1}{4}$ "	3 $\frac{1}{2}$ "	7 $\frac{1}{8}$ "	1 $\frac{1}{8}$ "	1 $\frac{1}{4}$ "	52

NO. 186 ROTARY INDEXING TABLE



PALMGREN
No 186

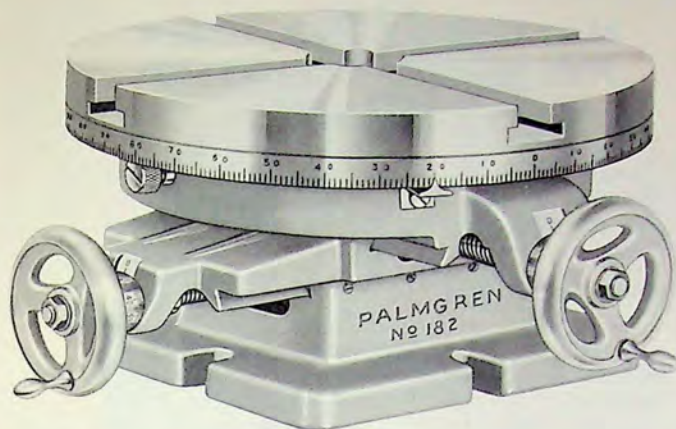
The No. 186 is an accurate rugged table. A very compact low unit $3\frac{3}{8}$ " overall height.

The 10" diameter top has a $1\frac{1}{2}$ " diameter centerbore with two $\frac{5}{8}$ " x 1" T-slots at 90°. The rim is calibrated to one degree increments. Precision cut worm and gear are used for the rotary index feed. The dial collar on worm shaft is $1\frac{1}{4}$ " diameter and calibrated at 1 minute intervals for direct reading. Take-up adjustment is provided to maintain free turning with minimum backlash. Two clamps are provided for locking top in any position.

The base has keyway and two bolt slots for location and mounting.

This superior quality table is essential equipment for work which requires accurate convenient indexing.

10" ROTARY TABLES | PALMGREN



NO. 182 ROTARY CROSS SLIDE TABLE

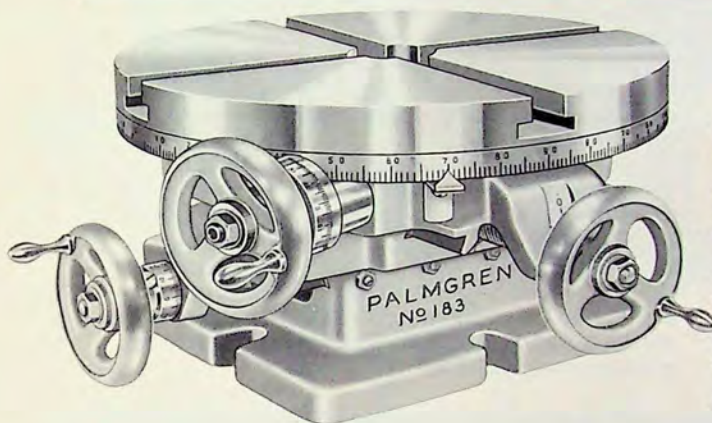
The No. 182 Table with 10" diameter top has many uses on drill presses, milling machines and grinders.

The table top can be freely turned in either direction and locked in desired position by two clamps with thumb screws. The top has a 1½" diameter centerbore and two ¾" x 1" T-slots. The rim is graduated in 1° increments for convenient setting.

Precision cut Acme thread screws with adjustable thrust collars are used for the lateral and transverse feeds. The direct reading dials on these screws are calibrated to .001". Overall travel is 4½" for both feeds. The slideways have adjustable steel gibs to maintain accuracy and smooth operation.

This is a versatile unit for boring, milling, grinding, drilling, and tapping operations where work does not require a rotary index feed.

The base has a keyway and four bolt slots for mounting on machine table.



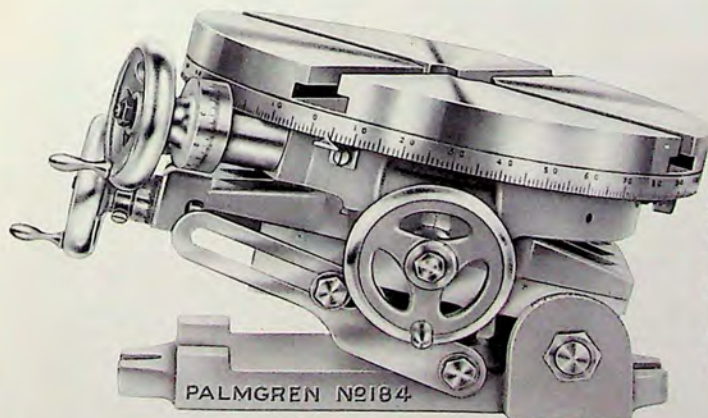
NO. 183 ROTARY CROSS SLIDE TABLE

This precision indexing table has a multiple of essential uses for boring, milling, grinding, drilling and tapping operations.

Indexing feed is by means of adjustable worm and gear. A dial collar on worm shaft is graduated to 1 minute increments. The rim of the 10" diameter top is graduated at 1° intervals. A 1½" diameter centerbore and two ¾" x 1" T-slots are provided for location of work.

Precision cut Acme thread screws are used for both the lateral and transverse feeds, with overall travel of 4½" for each. The dials on these feed screw shafts are graduated in .001" increments for direct reading. A thumb screw permits setting of dials at "0" or any convenient reading at the start of work. The slideways have adjustable steel gibs to maintain accuracy and smooth operation.

The large base is equipped with four bolt slots and a keyway for location and mounting on machine table.



NO. 184 ROTARY TILTING CROSS SLIDE TABLE

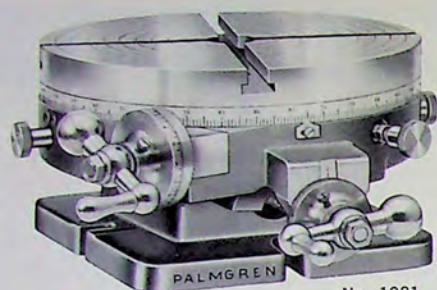
The rotary and dual cross feeds of the No. 183 have been built in conjunction with an adjustable tilting feature to provide a positioning table that is suited for all angle milling, grinding, shaping, tapping and drilling operations as well as layout work.

For convenience the hinge boss of the base is graduated 0° to 90° for direct reading. Two heavy side plates and four bolts are provided for locking at any angle.

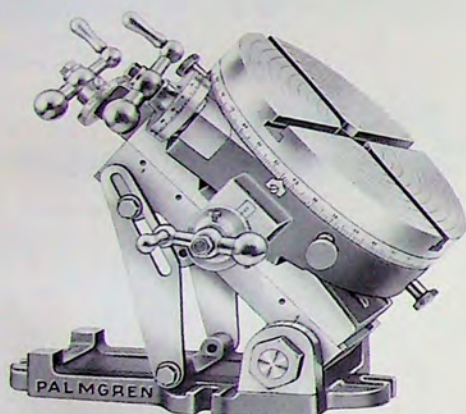
Where the work frequently requires angle setting this table is essential equipment for fast, accurate setups. It is easily mounted on machine by means of two bolt slots and a keyway — can be raised, lowered and indexed without removing work piece.

Table No.	Table Diameter	Height Overall	Top Grad.	Base	Base Keyway	Base Bolt Centers	Gear Ratio	Table T-Slots	Weight Lbs.
182	10"	5½"	360°	7½" x 6½"	¾"	6½" x 5½"	—	¾"	50
183	10"	5½"	360°	7½" x 6½"	¾"	6½" x 5½"	40:1	¾"	52
184	10"	5½"	360°	5" x 9½"	¾"	8"	40:1	¾"	54
186	10"	31¼"	360°	9½" x 12"	¾"	10½"	40:1	¾"	45

PALMGREN 12" ROTARY TABLES



No. 1281



No. 1284

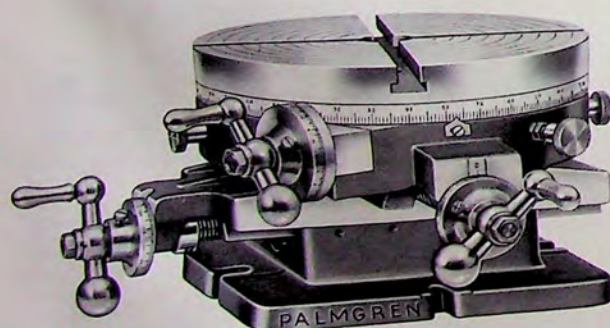
No. 1281, 1283, 1284 ROTARY INDEXING TABLES

These new heavy duty units are the latest addition to the Palmgren line of precision rotary indexing tables. No. 1281 has 360° rotary feed and 8" cross feed. No. 1283 has lateral feed, transverse feed and 360° rotary feed. The No. 1284 combines the features of the No. 1283 with a 0° to 90° tilting angle base.

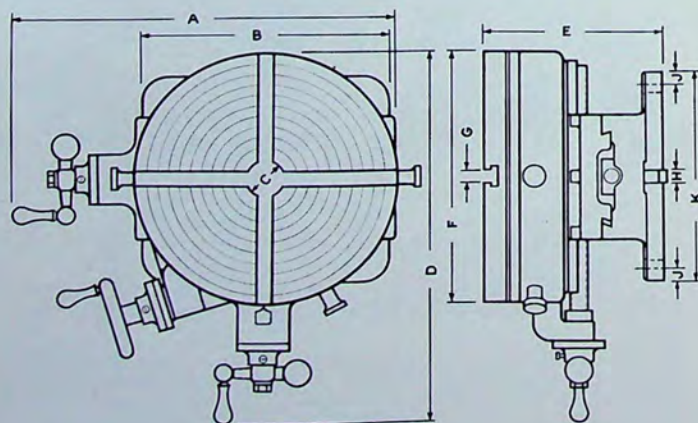
Rotary feed is by means of adjustable worm and gear which can be disengaged for quick rotation of the table top. The top, as well as all other surfaces, is ground parallel within .001" total indicator reading. Nine concentric scribed lines 1/2" apart, 1 5/8" center pilot, and two 5/8" x 1" T-slots are provided for positioning work. The rim of the 12" diameter top is precisely calibrated in 1° increments and adjustable pointer is provided on the body. Large, easy to read dials (2 1/2" diameter) are graduated in 1 minute increments for rotary feed and .001" intervals for lateral and transverse feeds. Two knurled clamps secure the top during work operations.

Roller thrust bearings are adjustable for backlash and smooth operation of precision Acme thread feed screws. Dovetails are provided with ground gib plates and screws for securely locking cross slides. Angle base is equipped with heavy steel side plates and four bolts for locking in any position from 0° horizontal to 90° vertical. Hinge boss is graduated every 2° for direct reading. Rectangular base and angle base have bolt slots and keyways for accurate mounting on machine table.

No.	Table Diameter	Height Overall	Top Grad.	Base Keyway	Gear Ratio	Table T-Slot	Wt. Lbs.
1281	12"	6 3/4"	360°	1 1/4"	90:1	5/8" x 1"	164
1284	12"	9 3/4"	360°	1 1/4"	90:1	5/8" x 1"	229

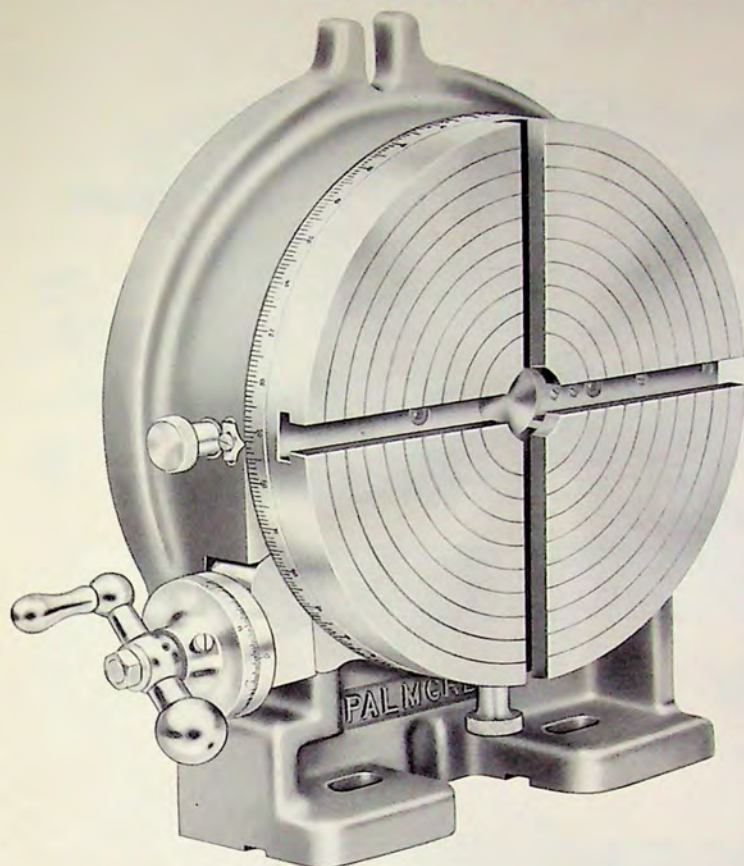


No. 1283



MODEL NO.	A	B	C	D	E	F	G	H	J	K	Weight Lbs.
1283	17 1/4"	11 1/2"	1 3/8"	17 3/8"	8 3/4"	12"	3/4"	1 1/8"	5/8"	10"	210

12" ROTARY TABLES | PALMGREN



NO. 1262 VERTICAL OR HORIZONTAL ROTARY INDEXING TABLE

For use in either horizontal or vertical position, this new 12" diameter Two Position Rotary Table is rugged enough for the heaviest type of production work, yet is sensitive enough for precision tool room work.

Ideally suited for rotary milling operations, spacing of holes in a circle, indexing for milling slots, cutting contours, engraving, or any of a host of other uses, which will save time and money in your toolroom, inspection department, pattern shop, experimental laboratory, or the production line, or wherever a precision rotary table is required to get the job done.

High accuracy, easy reading of dials, functional arrangement of controls, sturdy design and low compact construction are the distinguishing features of this unit.

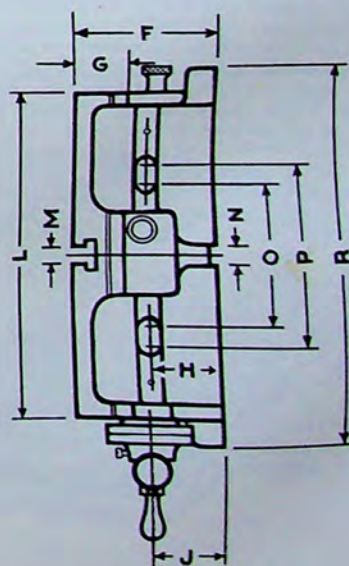
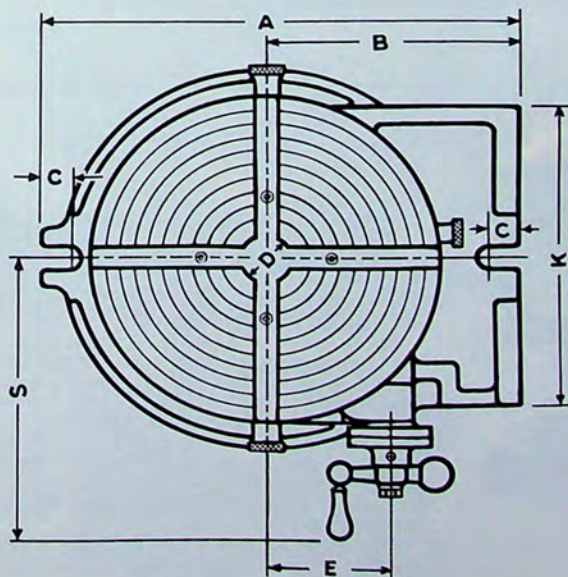
The precision worm, which is mounted in needle roller bearings, can be quickly disengaged for free table rotation, and precisely re-engaged to the same position.

Table top can be solidly locked in any position without affecting table setting, by means of the two clamps located at 180° intervals.

The large dial is adjustable and is graduated in one minute intervals. All graduations are accurately cut on a special graduating machine.

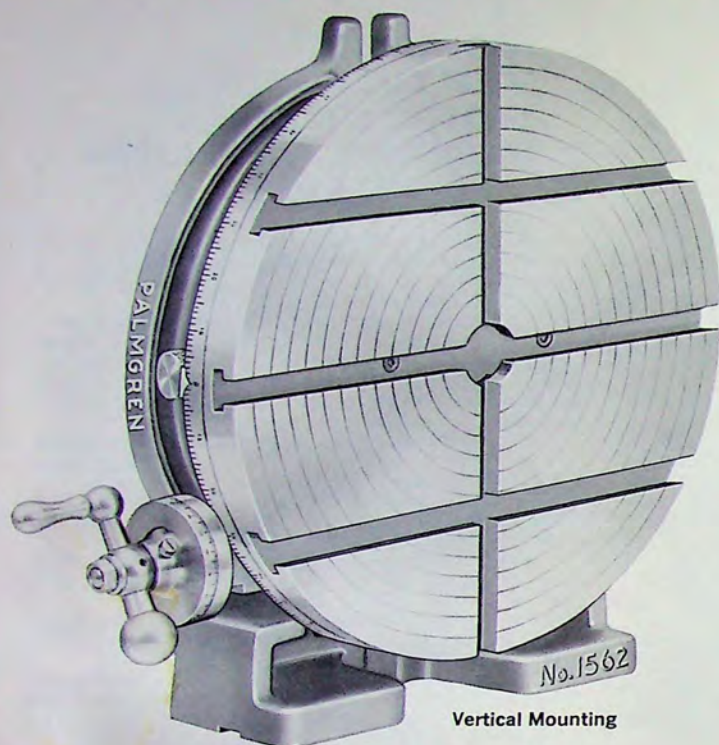
Full enclosure of drive mechanism prevents any contamination from coolant, chips, or dirt, etc. Nine concentric scribed lines $\frac{1}{2}$ " apart, $1\frac{1}{8}$ " dia. center pilot, and two $\frac{5}{8}$ " x 1" T-slots are provided for positioning work.

Maximum run-out in center hole is .001". Maximum parallelism error through 360° rotation of table is .001".



MODEL No.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	Weight
1262	17"	9"	1 $\frac{1}{4}$ "	1 $\frac{1}{4}$ "	4 $\frac{1}{4}$ "	4 $\frac{3}{4}$ "	1 $\frac{3}{4}$ "	2 $\frac{3}{4}$ "	2 $\frac{3}{4}$ "	11"	12"	$\frac{3}{4}$ "	1 $\frac{1}{2}$ "	5 $\frac{1}{4}$ "	6 $\frac{1}{4}$ "	14"	10 $\frac{1}{2}$ "	175

PALMGREN 15" ROTARY TABLES



Vertical Mounting

NO. 1562 VERTICAL OR HORIZONTAL ROTARY INDEXING TABLE

The model 1562 two position rotary indexing table is ideally suited for those heavy duty milling and drilling jobs where precise indexing is required.

The 15" dia. top has ample T-slots for clamping and concentrically scribed lines along with a 1 5/8" dia. center pilot for accurately centering work.

The large dial is divided in 1 minute increments and is adjustable for zero setting.

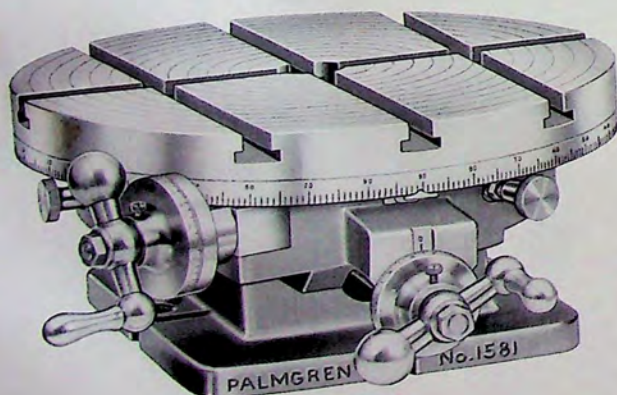
The precision worm, which is mounted in needle roller bearings, can be quickly disengaged for free table rotation.

Maximum run-out in center hole is .001". Maximum parallelism error through 360° rotation of table is .001".



Horizontal Mounting

No.	Table Diameter	Height Overall	Top Grad.	Base Keyway	Gear Ratio	Table T-Slot	Wt. Lbs.
1562	15"	4 3/4"	360°	1 1/8"	90:1	5/8" x 1"	192



NO. 1581 ROTARY INDEXING TABLE

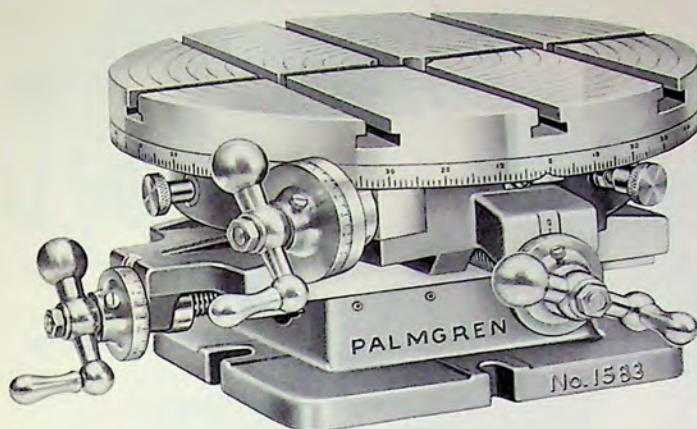
The No. 1581 has lateral feed, and 360° rotary feed.

Rotary feed is by means of adjustable worm and gear which can be disengaged for quick rotation of the table top. The top, as well as all other surfaces is ground parallel within .001" T.I.R. Concentric scribed lines 1/2" apart, 1 5/8" dia. center pilot and four 5/8" x 1" T-slots are provided for positioning work. The rim of the 15" dia. top is precisely calibrated in 1° increments and adjustable pointer is provided on the body. Large easy to read dials are graduated in 1 minute increments for rotary feed and .001" intervals for lateral feed. Two clamps secure the top during work operations.

Roller thrust bearings are adjustable for backlash and smooth operation of precision Acme thread feed screws.

No.	Table Diameter	Height Overall	Top Grad.	Base Keyway	Gear Ratio	Table T-Slot	Wt. Lbs.
1581	15"	6 3/4"	360°	1 1/8"	90:1	5/8" x 1"	215

15" ROTARY TABLES | PALMGREN



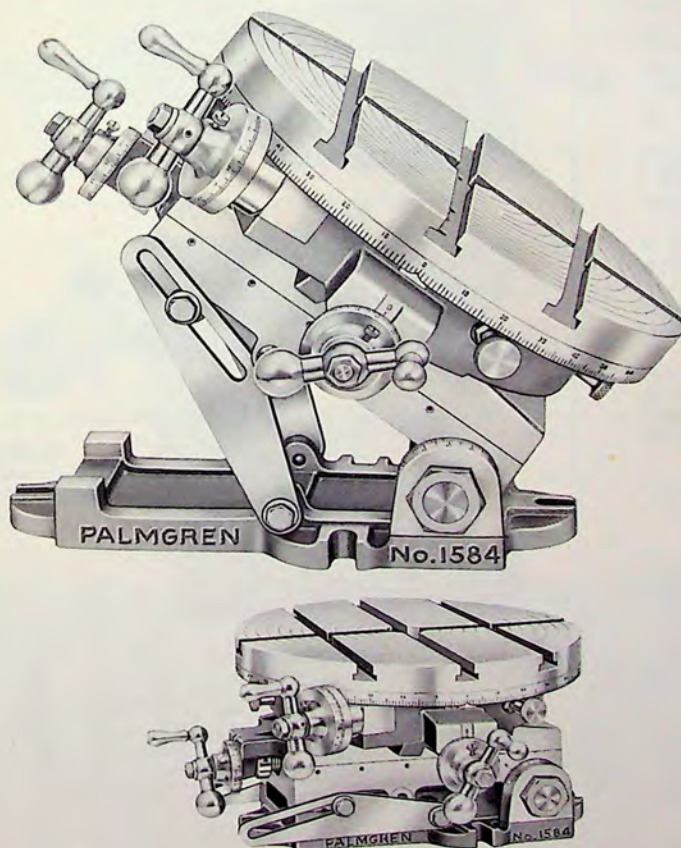
NO. 1583 ROTARY CROSS SLIDE INDEXING TABLE

The No. 1583 has lateral feed, transverse feed, and 360° rotary feed.

Rotary feed is by means of adjustable worm and gear which can be disengaged for quick rotation of the table top. The top, as well as all other surfaces is ground parallel within .001" T.I.R. Concentric scribed lines $\frac{1}{2}$ " apart, $1\frac{1}{8}$ " dia. center pilot and four $\frac{5}{8}$ " x 1" T-slots are provided for positioning work. The rim of the 15" dia. top is precisely calibrated in 1° increments and adjustable pointer is provided on the body. Large easy to read dials are graduated in 1 minute increments for rotary feed and .001" intervals for lateral and transverse feeds. Two clamps secure the top during work operations.

Roller thrust bearings are adjustable for backlash and smooth operation of precision Acme thread feed screws.

NO.	Table Diameter	Height Overall	Top Grad.	Base Keyway	Gear Ratio	Table T-Slot	Weight Lbs.
1583	15"	8 $\frac{1}{4}$ "	360°	$1\frac{1}{8}$ "	90:1	$\frac{5}{8}$ x 1"	215



NO. 1584 ROTARY TILTING CROSS SLIDE TABLE

The No. 1584 Rotary Tilting Cross Slide Table is one of the most versatile Rotary Tables on the market. The 8" lateral and transverse feed, 360° rotary feed combined with 0° to 90° tilting feature makes this Table ideally suited for your tool room, inspection department, pattern shop, experimental laboratory, production line or wherever a precision Rotary Table is required.

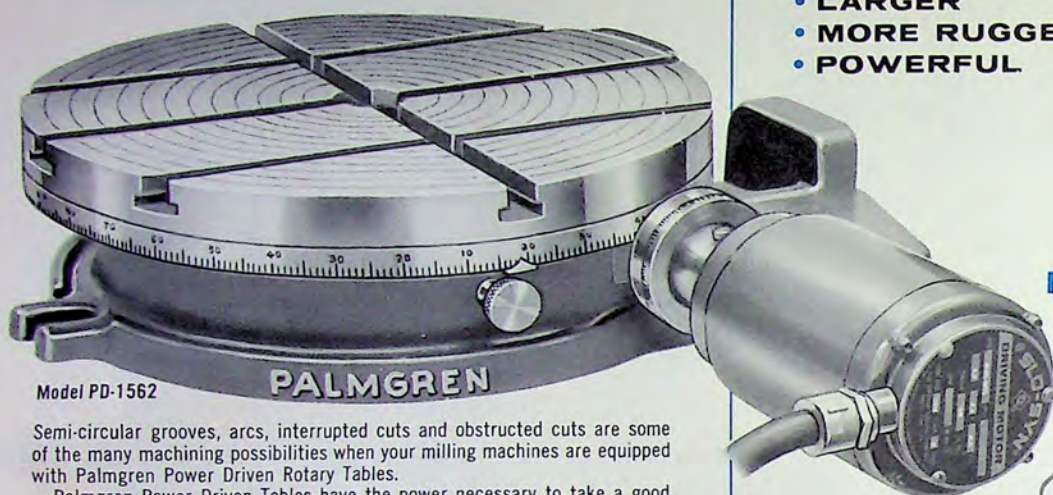
Some of the distinguishing features of this unit are large easy-to-read dials, which are adjustable for quick zero setting. Rotary feed reads directly to one minute. Lateral and transverse feeds are calibrated in .001" increments. The precision worm can be quickly disengaged for free table rotation. 15" dia. top has four $\frac{5}{8}$ " x 1" T-slots and concentrically scribed lines spaced at $\frac{1}{2}$ " intervals which provide for convenient clamping and location of work. Table top can be solidly locked in any position without affecting table setting, by means of two clamps located at 180° intervals. Angle base is equipped with heavy steel side plates and four bolts for locking in any position from 0° horizontal to 90° vertical. Hinge boss is graduated every 2° for direct reading. The top, as well as all other surfaces, is ground parallel within .001" total indicator reading. Dovetails are provided with ground gib plates and screws for securely locking cross slides. Thrust bearings are adjustable for backlash and smooth operation of precision Acme thread feed screws.

High accuracy, sturdy design and construction make this unit ideally suited for rotary milling operations, hole spacing, indexing for slots, contour cutting or engraving, just to name a few of its innumerable uses.

NO.	Table Diameter	Height Overall	Top Grad.	Base Keyway	Gear Ratio	Table T-Slot	Weight Lbs.
1584	15"	9 $\frac{3}{4}$ "	360°	$1\frac{1}{8}$ "	90:1	$\frac{5}{8}$ x 1"	265

PALMGREN POWER DRIVEN ROTARY TABLES

12" and 15" Diameter...



Model PD-1562

Semi-circular grooves, arcs, interrupted cuts and obstructed cuts are some of the many machining possibilities when your milling machines are equipped with Palmgren Power Driven Rotary Tables.

Palmgren Power Driven Tables have the power necessary to take a good cut. And they offer accurate control of table rotation and instant reversal to make "impossible" cuts "possible" or even "easy."

The key to the accurate control and smooth, powerful drive of the Palmgren Power Driven Table lies in its DC stepping motor and worm gear drive. Each step of 1.8° of the motor is accurate within $\pm 3\%$ non-cumulative. The motor has a maximum torque of 400 ounce inches when the motor is operating at lowest r.p.m. and 225 ounce inches at maximum r.p.m. Output, however, is 90 times this amount because of the 90:1 gear reduction of the worm drive. This provides ample power for toolroom jobs and many short run production jobs.

An accurately cut worm drive makes table rotation smooth and dependable. The cast iron worm wheel has bronze sleeve bearings which ride on a hardened center boss. Both sides of the worm wheel ride on needle bearings. The hardened and ground worm has needle thrust bearings at each end.

A simple screw adjustment makes it possible to eliminate backlash of the worm drive. This is extremely valuable for climb milling since elimination of backlash reduces chatter marks.

The circumference of the table is calibrated in 1° increments, and there's a pointer to establish a zero reference point. The motor shaft dial is calibrated in 1 minute increments to make accurate readings possible.

The table may be quickly rotated to the exact degree required. The operator first sets the motor at high speed stopping at the approximate setting. Then he lowers the speed and observes the 1 minute increments on the motor shaft dial. With a little practice he can quickly learn to stop at the exact point desired.

Another advantage of the Palmgren Power Driven Rotary Table is that the table may be instantly reversed without damage to the motor or drive. There's a control switch on the motor control panel for this purpose.

The internal gears and drive mechanism are well protected from dirt, chips and abrasives. Maintenance is simplified by having two oil cups on the worm plus four set screw covered holes in the top of the table for lubrication of the bearings and worm wheel.

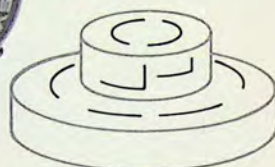
These power driven rotary tables may be mounted either vertically or horizontally to tables of milling machines, grinders, drill presses, cross slides of lathes, etc., to do jobs like grinding, milling, drilling holes around circumferences, routing circular paths, machining cam surfaces, inspecting for concentricity and contour, and for contour machining.

The compact power unit (only 12" wide, 9" high and 7" deep) operates on 115 volt 60 cycle AC and features infinitely variable speed control, clockwise or counterclockwise rotation and instantaneous reversal without damage to the drive. Speeds range from 0 to 0.8 r.p.m.

- LARGER
- MORE RUGGED
- POWERFUL



Now
make cuts
like
these...



Compact Power Unit

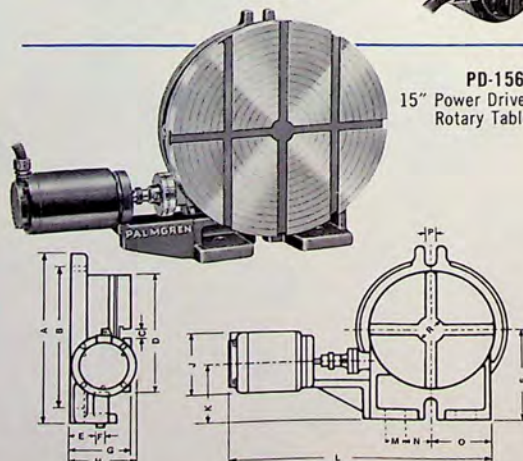
has functional arrangement of controls and features infinitely variable speed control, clockwise and counterclockwise rotation and instantaneous reversal. Width 12", depth 7", height 9". 115 volt, 60 cycle.



PD-1262
12" Power Driven
Rotary Table.



PD-1562
15" Power Driven
Rotary Table.



DIMENSIONS AND SPECIFICATIONS

Table No.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	Weight Lbs.
PD-1262	17"	14 1/4"	3/4"	12"	1 1/2"	1 1/16"	4 3/4"	4 1/2"	4 1/16"	4 3/4"	22 1/16"	1 1/2"	2 1/4"	5 1/2"	1 1/16"	1 3/4"	9"	209
PD-1562	17"	14 1/4"	3/4"	15"	1 1/2"	1 1/16"	4 3/4"	4 1/2"	4 1/16"	4 3/4"	22 1/16"	1 1/2"	2 1/4"	5 1/2"	1 1/16"	1 3/4"	9"	233

10" & 12" CROSS SLIDE TABLES | PALMGREN

NO. 90, 91, 92, 93 MILLING TABLES

These precision built slide tables are essential for accurate boring, drilling, grinding and milling operations.

The No. 90 has a single axis lateral feed while the No. 91 provides a tilting feature along with the single slide. The No. 92 is equipped with extremely versatile two-axis positioning and the No. 93, similar to the No. 92, also has a tilting angle base.

All tables can be furnished with either 6" x 10" or 6" x 12" table top surface. Either size has one longitudinal T-slot and three equally spaced cross T-slots. Precision Acme feed screws have adjustable thrust collars for smooth operation and minimum backlash. Dials are graduated in .001" increments and have thumb screws for easy "0" setting. Dovetailed slides have adjustable steel gibs to compensate for wear. Heavy side plates and four bolts are provided for positive locking at any angle. Hinge boss is graduated 0° to 90° for direct reading. All bases have bolt slots and keyways for accurate positioning on machine table.

NO. 45P NEW HEAVY DUTY ALL ANGLE SURFACE PLATE. This Surface Plate provides for 360° rotation of the top plate, 360° base swivel, and 0° thru 90° vertical angle adjustment.

This combination of movements makes possible set-ups at virtually any angle or combination of angles that may be required.

The surface plate top is 6" x 10½" with one ¾" x ¾" central T-slot, two transverse T-slots, and a 1½" diameter center pilot.

The angle, rotation, and swivel movements are calibrated for direct reading with Vernier markings to 1°. Base has ⅝" keyways and bolt slots for machine mounting.



90-10
90-12



91-10
91-12



92-10
92-12



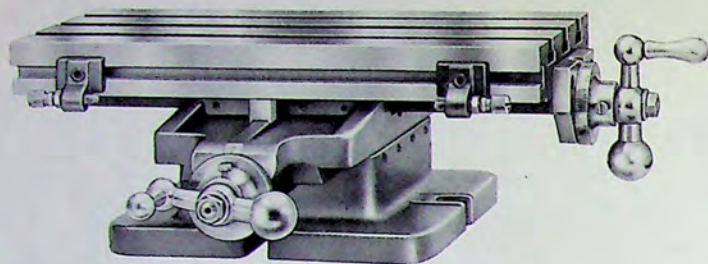
93-10
93-12



No. 45P

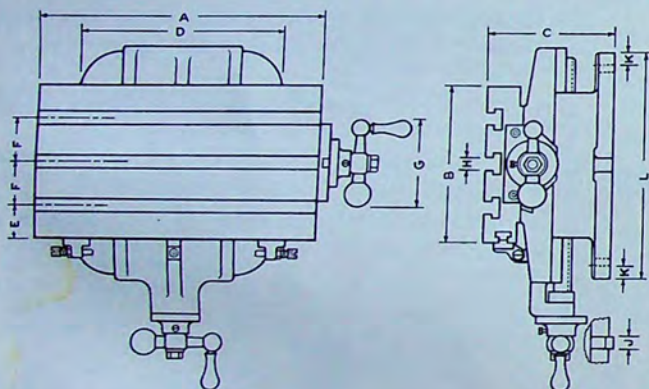
No.	Table Size	Base Size	Travel	Keyways and T-Slots	Angle Base Graduations	Overall Height	Weight Lbs.
90-10	10" x 6"	7½" x 6½"	6"	¾" x 7/16"		3½"	34
90-12	12" x 6"	7½" x 6½"	8"	¾" x 7/16"		3½"	39
91-10	10" x 6"	9" x 5"	6"	¾" x 7/16"	0°-90°	3¾"	37
91-12	12" x 6"	9" x 5"	8"	¾" x 7/16"	0°-90°	3¾"	40
92-10	10" x 6"	7½" x 6½"	6" x 4½"	¾" x 7/16"		4¾"	40
92-12	12" x 6"	7½" x 6½"	8" x 4½"	¾" x 7/16"		4¾"	44
93-10	10" x 6"	9" x 5"	6" x 4½"	¾" x 7/16"	0°-90°	4¾"	42
93-12	12" x 6"	9" x 5"	8" x 4½"	¾" x 7/16"	0°-90°	4¾"	48
NO. 45P NEW HEAVY DUTY ALL ANGLE SURFACE PLATE.							
No.	Plate Size	T-Slots	Surface Plate Rotation	Swivel Base Rotation	Angle Base Adjustment	Overall Height	Weight Lbs.
45P	10" x 6"	7/16" x ¾"	360°	360°	0°-90°	5"	52

PALMGREN 14" AND 16" SLIDE TABLES



No. 192-14, No. 192-16 Dual Slide Machine Tables

Positioning on both "X" and "Y" axis is provided on these rugged tables.



Model No.	A	B	C	D	E	F	G	H	J	K	L	Travel	Weight Lbs.
192-14	14	8	6 1/4	10	1 1/4	2 1/4	4 1/2	3/4	1 1/4	3/4	11 1/2	8" x 8"	145
192-16	16	8	6 1/4	10	1 1/4	2 1/4	4 1/2	3/4	1 1/4	3/4	11 1/2	8" x 10"	149

Where precision work is required, these new heavy duty slide tables combine accuracy with greater working surface and rugged construction.

Castings are the finest quality Gray Iron. Accurately machined and ground surfaces provide tolerances well within .001" total in length of travel. Table tops have three equally spaced longitudinal T-slots. Precision Acme thread feed screws are equipped with needle roller thrust bearings for smooth operation. Backlash is controlled by adjustable feed screw collars. Extra large balanced cranks with revolving handles are provided for ease of operation. Large easy to read dials (2 1/2" diameter) are graduated in .001" increments and are equipped with thumb screws to permit setting to "0" or any convenient reading at start of work. Two adjustable travel stops are mounted on side of table top. Base and cross slide are provided with ground gib plates and screws for securely locking top and cross slide at any position. Angle base is equipped with heavy heat treated steel side plates and four bolts for locking in any position from 0° horizontal to 90° vertical. All bases have bolt slots and keyways for accurate positioning on machine table.

These precision built slide tables are essential equipment for the tool room, laboratory, production line, or wherever accurate positioning is required.



No. 190-14, No. 190-16 Single Slide Machine Tables

These new Heavy Duty Tables provide precision positioning on the "Y" axis.

Model No.	Table Size	Travel	Keyways	T-Slots	Overall Height	Weight Lbs.
190-14	14" x 8"	8"	1 1/4"	3/4" x 1"	4 1/2"	98
190-16	16" x 8"	10"	1 1/4"	3/4" x 1"	4 1/2"	102

PALMGREN MACHINE VISES AND TABLES

Suggested Net Resale

prices*

**EFFECTIVE
SEPTEMBER 1, 1976**

Tables and slides of other types and sizes for special application, manufactured to fit the job. Submit specifications and prints for quotations.

MODEL NO.	DESCRIPTION	PAGE NO.	WEIGHT LBS.	NET PRICE EA.
XO	Angle Vise	2	4	\$ 22.45
X1	Angle Vise	2	4	22.50
O	Angle Vise	2	10	24.50
OO	Angle Vise	2	10	25.30
OOO	Angle Vise	2	10	26.65
2	Heavy Duty Angle Vise	5	47	287.86
2B	Heavy Duty Angle Vise With Base	5	58	320.05
2H	Crank Handles for #325, #425B	8	1	8.96
3	Heavy Duty Angle Vise	5	115	403.10
3B	Heavy Duty Angle Vise With Base	5	130	449.95
4	Heavy Duty Angle Vise	5	190	489.08
4B	Heavy Duty Angle Vise	5	250	603.65
5	Drill Press Vise	6	2	13.45
6	Drill Press Vise	6	2	13.50
6H	Crank Handles for #2B, #40B	9	2	12.34
7	Utility Vise	7	12	35.55
8	Jaw Set	17	3	12.53
9	Centering Plug	17	1	27.78
10	Drill Press Vise	6	6	15.45
10H	Crank Handles for #3B, #60B	9	2	18.62
11G	Ground Vise	7	2	36.45
12	Bench-Drill Press Vise	7	9	41.99
13	Drill Press Vise	6	11	33.20
13G	Ground Vise	7	11	87.61
13T	T-Slot Bolts	17	1	10.60
14	Drill Press Vise	6	19	35.85
14G	Ground Vise	7	19	109.51
14H	Crank Handles for #4B, #80B	9	3	25.18
15	Aluminum Hand Vise	13	1	6.96
15B	Base for 1½" Angle Vise	3	2	9.08
15C	Base for 1½" Angle Vise	3	2	10.75
15M	Base for 1½" Angle Vise	3	2	8.35
18	Bench-Drill Press Vise	7	35	73.05
20	Drill Press Vise	6	6	15.95
22G	Ground Vise	7	6	51.07
23B	Adjustable Angle Vise	4	23	65.65
24B	Adjustable Angle Vise	4	36	83.80
25B	Base for 2½" Angle Vise	3	3	10.53
25C	Base for 2½" Angle Vise	3	2	11.13
25M	Base for 2½" Angle Vise	3	4	10.59
30	Drill Press Vise	6	6	16.30
40	Heavy Duty Machine Vise	9	34	131.55
40B	Heavy Duty Machine Vise With Base	9	45	170.95
45P	Heavy Duty All Angle Surface Plate	27	52	377.40
45V	Heavy Duty All Angle Vise	4	49	405.23
46	Rotary Table	17	16	139.70
52	Plier Wrench	13	1	9.12
55	All Angle Vise	5	18	73.15
60	Heavy Duty Machine Vise	9	80	178.26
60B	Heavy Duty Machine Vise With Base	9	107	223.55
80	Heavy Duty Machine Vise	9	150	332.26
80B	Heavy Duty Machine Vise With Base	9	190	427.55
81	Rotary Table	17	40	254.95
82	Rotary Table	17	38	162.42
83	Rotary Table	16	40	204.33
84	Rotary Table	17	45	263.60
86	Rotary Table	17	36	167.89
90-10	Slide Machine Table	27	34	167.65
90-12	Slide Machine Table	27	39	181.69
91-10	Slide Machine Table	27	37	195.72
91-12	Slide Machine Table	27	40	209.64
92-10	Slide Machine Table	27	40	237.47
92-12	Slide Machine Table	27	44	251.63
93-10	Slide Machine Table	27	42	265.30
93-12	Slide Machine Table	27	48	279.46
102	Rotary Table	19	49	391.26
103	Rotary Table	19	44	251.63
104	Rotary Table	18	47	321.56

* This price list supersedes all previous quotations and is subject to change without notice.

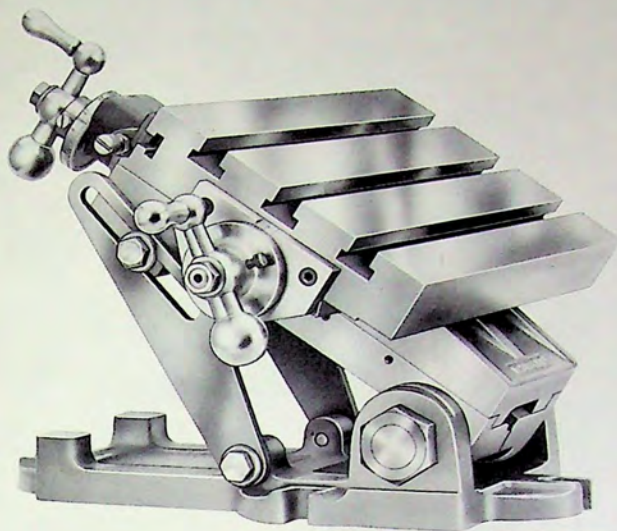
MODEL NO.	DESCRIPTION	PAGE NO.	WEIGHT LBS.	NET PRICE EA.
106	Rotary Table	19	73	\$ 653.80
120	Drill Press Vise	7	3	15.19
121	Air Vise	13	4	35.05
150V	Milling Attachment	15	5	52.40
182	Rotary Table	21	50	223.56
183	Rotary Table	21	52	251.63
184	Rotary Table	21	54	279.46
186	Rotary Table	20	45	209.64
190-14	Slide Machine Table	28	98	501.85
190-16	Slide Machine Table	28	102	539.97
191-14	Slide Machine Table	31	121	755.95
191-16	Slide Machine Table	31	129	794.07
192-14	Slide Machine Table	28	145	597.14
192-16	Slide Machine Table	28	149	635.25
193-14	Slide Machine Table	31	170	851.24
193-16	Slide Machine Table	31	190	889.36
250P	Milling Attachment	15	13	62.15
250V	Milling Attachment	15	12	63.47
300	Air Vise	13	38	93.12
310	Machine Vise	8	12	55.85
320	Drill Press Vise	7	8	20.89
321	Air Vise	13	10	69.82
325	"Low-Boy" Swivel Machine Vise	8	11	53.06
325B	"Low-Boy" Swivel Machine Vise	8	15	62.87
346	Indexing Attachment	17	1	73.15
400P	Milling Attachment	15	35	75.20
400V	Milling Attachment	15	36	91.70
404	Production Vise	10	35	181.62
410	Machine Vise	8	23	69.82
425	"Low-Boy" Swivel Machine Vise	8	18	64.25
425B	"Low-Boy" Swivel Machine Vise	8	25	89.75
610	Machine Vise	8	50	111.75
800	Milling Attachment	15	35	160.95
862	Rotary Table	18	44	181.81
900	Base	14	3	15.68
901	Vise & Base	14	4	26.57
902	Vise & Base	14	4	26.57
903	Vise	14	2	14.47
904	Vise	14	2	14.47
909	Plate, Plain	14	11	21.73
910	Plate, Tapped	14	11	36.10
911	Clamp	14	3	9.63
912	Clamp & Base	14	5	25.29
913 or 914	Clamp, Base & Vise	14	7	36.18
915	Board Holder	14	2	20.52
916	10" Bar & Holder	14	1	13.26
917	Plate, Base & Vise	14	15	55.00
918	Plate, Base & Vise	14	15	54.00
919	Base & Holder	14	4	36.18
920	Plate, Base & Holder	14	14	57.90
1062	Rotary Table	20	52	237.47
1262	Rotary Table	23	175	607.20
PD 1262	Power Driven Rotary Table	26	209	1789.70
1281	Rotary Table	22	164	698.78
1283	Rotary Table	22	210	1010.05
1284	Rotary Table	22	229	1206.98
1346	Indexing Attachment	17	3	161.10
1562	Rotary Table	24	192	689.75
PD 1562	Power Driven Rotary Table	26	233	1923.75
1581	Rotary Table	24	215	952.88
1583	Rotary Table	25	215	1264.15
1584	Rotary Table	25	265	1461.08
8315-8	Rotary Table	18	77	349.08
8315-10	Rotary Table	18	81	391.14
PCV-1	Centering Vise	10	46	338.80
PCV-2	Centering Vise	10	64	411.40
PCV-3	Centering Vise	10	163	565.07

PALMGREN
MACHINE VISES
AND TABLES

DIVISION OF
CHICAGO TOOL
AND ENGINEERING
COMPANY

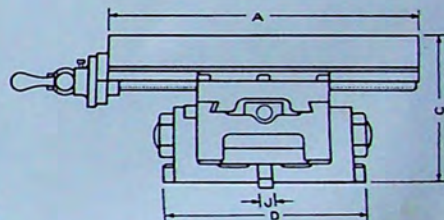
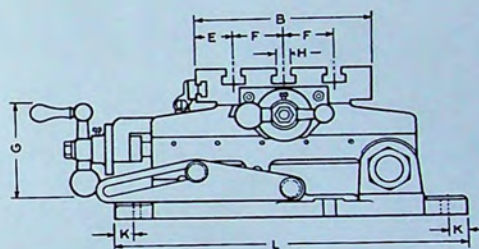
8383 SOUTH
CHICAGO AVENUE
CHICAGO, ILL. 60617
312/721-9675-6-7

14" AND 16" SLIDE TABLES | PALMGREN

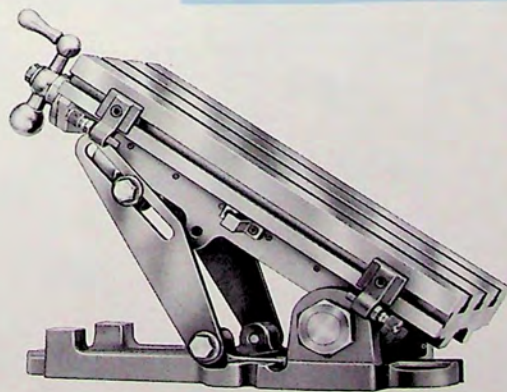


No. 193-14, No. 193-16 Adjustable Angle Dual Cross Slide Machine Table

With this combination you have "X" and "Y" axis positioning plus 0°-90° angle adjustment.



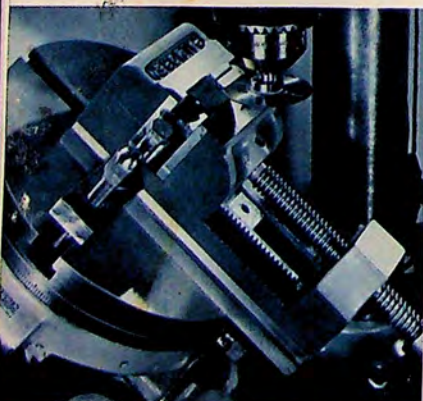
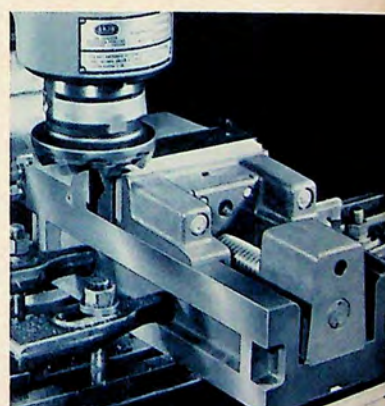
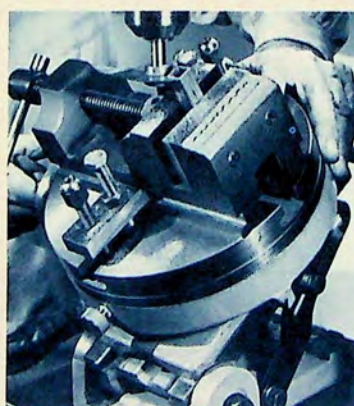
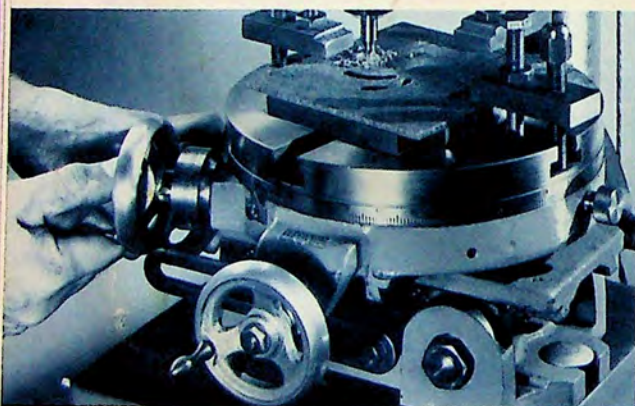
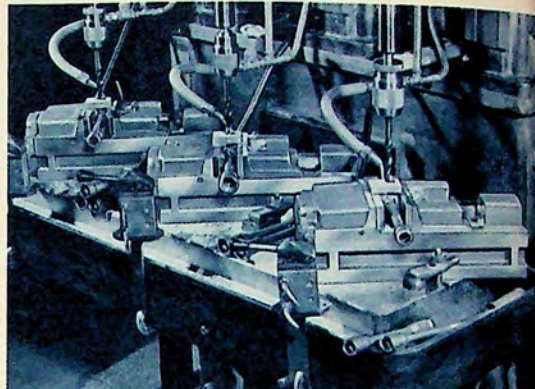
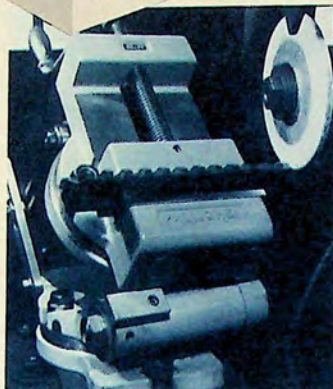
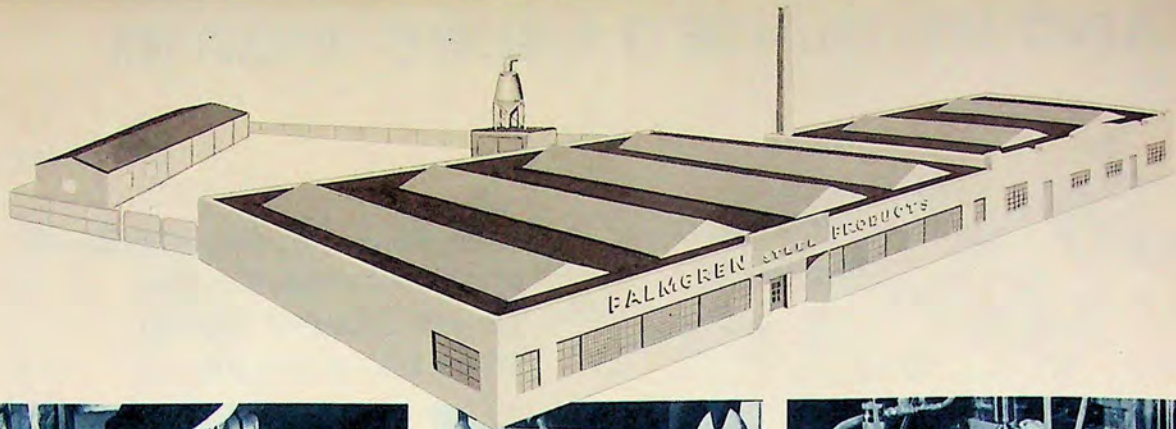
Model No.	A	B	C	D	E	F	G	H	J	K	L	Travel	Weight Lbs.
193-14	14	8	7 1/4	9	1 1/4	2 1/4	4 1/2	3/8	1 1/4	3/8	16	8" x 8"	170
193-16	16	8	7 1/4	9	1 1/4	2 1/4	4 1/2	3/8	1 1/4	3/8	16	8" x 10"	190



No. 191-14, No. 191-16 Adjustable Angle Single Slide Machine Tables

In addition to "Y" axis positioning, these tables provide 0°-90° angle adjustment.

Model No.	Table Size	Travel	Keyways	T-Slots	Angle Base Graduation	Overall Height	Weight Lbs.
191-14	14" x 8"	8"	1 1/4"	3/8" x 1"	0°-90°	6"	121
191-16	16" x 8"	10"	1 1/4"	3/8" x 1"	0°-90°	6"	129



PALMGREN MACHINE VISES AND TABLES

DIVISION OF
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